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BOSTON AND FOURTEEN LARGE CITIES ECONOMIC STRUCTURE AND TRENDS
1969-1980

Full and Part-Time Employment By Industrial Sector

Jeffrey Brown
Boston Redevelopment Authority
Research Department

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Kevin H. White, Mayor
City of Boston

Robert J. Ryan, Director
Boston Redevelopment Authority

Alexander Ganz, Director
Research Department

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I. INTRODUCTION

Boston's economy changed greatly from 1969-1980. From the recessions and energy shocks of the early and mid-1970s, the City emerged with a revived, growing economy based on a broad range of services industries. The purpose of this study is to compare Boston to fourteen of the nation's large cities in terms of broad measures of economic structure and trends over the eleven-year period.

This represents part of a larger comparative study of the thirty-four largest cities in the nation and their metropolitan regions. This analysis does not offer a level of retail suitable for specific economic development policies. However, the findings provide insight into Boston's strengths and weaknesses relative to other large cities and offer a perspective on local economic prospects in the 1980s.

The following sections of the study are (II) a summary of findings, (III) presentation of the results of the calculations, (IV) a discussion of the implications of the findings for Boston, and (V) a description of the data and approach of the analysis.

II. SUMMARY OF FINDINGS

In brief, this analysis indicates that Boston's employment structure changed markedly and for the better from 1969 to 1980. After heavy job losses during the national recessions, 1969-76, Boston's restructured and revived economy grew faster than the fifteen-city average 1976-80. Boston specialized in the fastest growing national sectors--finance, services, and government, and had relatively small employment bases in the slowest growing sectors--manufacturing and trade. Consequently, Boston's economy was well prepared for employment growth in the 1980s.

In terms of employment structure, employment growth and net export and net import roles, the fifteen cities differed widely. The percent distribution of employment by sector indicated that older, industrial cities were most dependent on employment in manufacturing. Cities with broad-based services relied most on employment in finance, services and government. The growing Sunbelt cities specialized in manufacturing, retail trade, services and government. The newer cities also had relatively large concentrations of employment in construction and mining.

The Sunbelt cities grew rapidly in all industries over the eleven years while the older, northern cities lost thousands of jobs, especially in manufacturing and trade. For example, Phoenix more than doubled employment in wholesale trade, retail trade, finance, services and construction. Houston, Los Angeles, Phoenix and Denver were the only cities that increased their manufacturing and transportation employment over the period. Concurrently, St. Louis and Philadelphia lost thirteen and eighteen percent, respectively, of their total employment bases, and Boston and New York had substantial job growth only in the services sector.

Net export and net import roles changed notably in many cities. For example, Phoenix increased its net export role in retail trade and Boston and Denver changed from net exporters to net importers of retail trade. In general, the analysis indicated that central city counties were net exporters of transportation and public utilities, finance, insurance and real estate, services and wholesale trade. By 1980, most cities were becoming net importers of manufacturing and retail trade, reflecting the growth of suburban and nonmetropolitan areas during 1969-1980.

Boston's comparative strength in the nation's fastest-growing sectors lent support to projections of job growth in the City during the 1980s. Although the long-term prospects for Boston's economy were favorable as the '80s began, a number of short-term problems threatened to retard employment growth. The City's fiscal crisis reduced jobs-supporting public services and delayed capital improvements. The recession of 1981-82 could delay job growth even in Boston's relatively recession-proof economy. Further, the Reagan Administration's cuts in local aid and social programs, increases in military spending, and "New Federalism" could be particularly counterproductive for Boston's services-government-finance-based economy in the 1980s.

Finally, employment growth in a broad range of services in Boston may not provide the types of jobs that best match the skills and experience of Boston residents. Employment opportunities need coincident education and public and private job training programs to improve the ability of Boston residents to gain and hold jobs located in the City.

TABLE 1A

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE
BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
NONFARM TOTAL

	FULL AND PART-TIME EMPLOYMENT			PERCENT SHARE OF TOTAL EMP.		
	1969	1976	1980	1969	1976	1980
UNITED STATES	76,979,000	84,779,000	95,298,000	100.0	100.0	100.0
BOSTON	568,326	513,443	557,597	100.0	100.0	100.0
SUNBELT						
ATLANTA	574,538	646,075	761,307	100.0	100.0	100.0
HOUSTON	741,066	1,049,281	1,353,990	100.0	100.0	100.0
LOS ANGELES	3,064,953	3,225,360	3,748,069	100.0	100.0	100.0
NEW ORLEANS	312,167	335,042	342,850	100.0	100.0	100.0
PHOENIX	350,460	480,540	667,743	100.0	100.0	100.0
INDUSTRIAL						
CHICAGO	2,665,184	2,565,411	2,641,368	100.0	100.0	100.0
CLEVELAND	830,544	779,484	791,213	100.0	100.0	100.0
DETROIT	1,168,511	1,065,240	1,001,500	100.0	100.0	100.0
PHILADELPHIA	997,629	837,010	813,821	100.0	100.0	100.0
ST. LOUIS	439,610	384,035	382,179	100.0	100.0	100.0
BROAD-BASED SERVICES						
DENVER	343,706	369,954	437,862	100.0	100.0	100.0
NEW YORK	3,974,855	3,388,797	3,439,222	100.0	100.0	100.0
SAN FRANCISCO	536,492	517,785	593,319	100.0	100.0	100.0
WASHINGTON,DC.	631,609	645,349	664,230	100.0	100.0	100.0
TOTAL 15 CITIES	17,199,640	16,802,800	18,196,250			
PERCENT OF USA	22.3	19.8	19.1			

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

III. EMPLOYMENT STRUCTURE, PERCENT CHANGE AND NET EXPORT AND NET IMPORT ROLES

Employment Structure and Change, 1969-1980

Boston and fourteen other large cities differed widely in terms of employment structure in 1969, 1976 and 1980. As illustrated in Tables 1A-9A and Figures 1-14, the percent distribution of employment by broad industrial sector varied across cities, even within three broad categories: Sunbelt, industrial, and broad-based services.* For reference points, the employment bases by sector in each city are included in Tables 1A-9A.

For example, manufacturing in 1969 accounted for the following percent shares of total employment in each city: Washington, D.C. (3 percent), Boston (13 percent), Cleveland (34 percent) (see Table 2A). In 1980, the range for manufacturing was similar, with Boston maintaining its place as fourth lowest among the fifteen cities. As expected, the industrial cities, along with Los Angeles, had the greatest dependence on the manufacturing sector. All cities had smaller percent shares in manufacturing in 1980 compared to eleven years earlier, reflecting a major shift in the national economy away from production of goods toward provision of services. The most notable decline occurred in Philadelphia's manufacturing sector, apparently a result of extensive job losses and plant closings in steel and other industries (Table 2B). The high percent shares in Los Angeles reflected

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* The tables include the United States as a reference point even though the national data reflects the composition of total employment in urban, suburban, and non-urban areas.

TABLE 2A

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE
BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
MANUFACTURING

	FULL AND PART-TIME EMPLOYMENT			PERCENT SHARE OF TOTAL EMP.		
	1969	1976	1980	1969	1976	1980
UNITED STATES	20,270,000	19,023,000	20,375,000	26.3	22.4	21.4
BOSTON	73,315	56,492	54,955	12.9	11.0	9.9
SUNBELT						
ATLANTA	86,740	79,374	85,983	15.1	12.3	11.3
HOUSTON	133,821	165,178	205,294	18.1	15.7	15.2
LOS ANGELES	885,602	794,922	915,326	28.9	24.6	24.4
NEW ORLEANS	32,237	26,274	25,569	10.3	7.8	7.5
PHOENIX	75,963	75,797	113,881	21.7	15.8	17.1
INDUSTRIAL						
CHICAGO	832,735	678,223	643,790	31.2	26.4	24.4
CLEVELAND	285,333	226,496	213,150	34.4	29.1	26.9
DETROIT	415,264	352,271	297,968	35.5	33.1	29.8
PHILADELPHIA	260,429	159,931	134,773	26.1	19.1	16.6
ST. LOUIS	122,824	93,803	87,884	27.9	24.4	23.0
BROAD-BASED SERVICES						
DENVER	50,782	44,592	51,015	14.8	12.1	11.7
NEW YORK	826,650	543,229	498,837	20.8	16.0	14.5
SAN FRANCISCO	57,265	46,607	50,775	10.7	9.0	8.6
WASHINGTON, DC.	20,111	15,242	15,619	3.2	2.4	2.4
TOTAL 15 CITIES	4,159,071	3,358,431	3,394,819			
PERCENT OF USA	20.5	17.7	16.7			

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 1B

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE
BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
NONFARM TOTAL

	CHANGE IN NO. EMPLOYEES		PERCENT CHANGE	
	1969-76	1976-80	1969-76	1976-80
UNITED STATES	7,800,000	10,518,990	10.1	12.4
BOSTON	- 54,883	44,154	- 9.7	8.6
SUNBELT				
ATLANTA	71,537	115,232	12.5	17.8
HOUSTON	308,215	304,709	41.6	29.0
LOS ANGELES	160,407	522,709	5.2	16.2
NEW ORLEANS	22,875	7,808	7.3	2.3
PHOENIX	130,080	187,203	37.1	39.0
INDUSTRIAL				
CHICAGO	- 99,773	75,957	- 3.7	3.0
CLEVELAND	- 51,060	11,729	- 6.1	1.5
DETROIT	- 103,271	- 63,740	- 8.8	- 6.0
PHILADELPHIA	- 160,619	- 23,189	- 16.1	- 2.8
ST. LOUIS	- 55,575	- 1,856	- 12.6	- 0.5
BROAD-BASED SERVICES				
DENVER	26,248	67,908	7.6	18.4
NEW YORK	- 586,058	50,425	- 14.7	1.5
SAN FRANCISCO	- 18,707	75,534	- 3.5	14.6
WASHINGTON, DC.	13,740	18,881	2.2	2.9
TOTAL 15 CITIES	- 396,844	1,393,464	- 2.3	8.3

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 3A

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
TRANSPORTATION & UTILITIES

	FULL AND PART-TIME EMPLOYMENT			PERCENT SHARE OF TOTAL EMP.		
	1969	1976	1980	1969	1976	1980
UNITED STATES	4,455,000	4,568,000	5,156,000	5.8	5.4	5.4
BOSTON	42,154	35,114	37,692	7.4	6.8	6.8
SUNBELT						
ATLANTA	55,416	54,670	66,096	9.6	8.5	8.7
HOUSTON	59,330	76,312	95,839	8.0	7.3	7.1
LOS ANGELES	177,373	174,618	203,288	5.8	5.4	5.4
NEW ORLEANS	37,368	34,700	38,505	12.0	10.4	11.2
PHOENIX	18,076	23,823	31,046	5.2	5.0	4.6
INDUSTRIAL						
CHICAGO	187,307	166,315	164,944	7.0	6.5	6.2
CLEVELAND	52,566	43,875	43,155	6.3	5.6	5.5
DETROIT	70,125	59,513	58,834	6.0	5.6	5.9
PHILADELPHIA	69,357	56,235	52,731	7.0	6.7	6.5
ST. LOUIS	37,341	31,377	31,758	8.5	8.2	8.3
BROAD-BASED SERVICES						
DENVER	32,171	34,192	41,647	9.4	9.2	9.5
NEW YORK	329,211	268,878	263,316	8.3	7.9	7.7
SAN FRANCISCO	60,653	48,381	53,310	11.3	9.3	9.0
WASHINGTON,DC.	32,914	26,054	25,630	5.2	4.0	3.9
TOTAL 15 CITIES	1,261,362	1,134,057	1,207,791			
PERCENT OF USA	28.3	24.8	23.4			

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 2B

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE
BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
MANUFACTURING

	CHANGE IN NO. EMPLOYEES		PERCENT CHANGE	
	1969-76	1976-80	1969-76	1976-80
UNITED STATES	-1,246,992	1,352,000	- 6.2	7.1
BOSTON	- 16,823	- 1,537	- 22.9	- 2.7
SUNBELT				
ATLANTA	- 7,366	6,609	- 8.5	8.3
HOUSTON	31,357	40,116	23.4	24.3
LOS ANGELES	- 90,680	120,404	- 10.2	15.1
NEW ORLEANS	- 5,963	- 705	- 18.5	- 2.7
PHOENIX	- 166	38,084	- 0.2	50.2
INDUSTRIAL				
CHICAGO	- 154,512	- 34,433	- 18.6	- 5.1
CLEVELAND	- 58,837	- 13,346	- 20.6	- 5.9
DETROIT	- 62,993	- 54,303	- 15.2	- 15.4
PHILADELPHIA	- 100,498	- 25,158	- 38.6	- 15.7
ST. LOUIS	- 29,021	- 5,919	- 23.6	- 6.3
BROAD-BASED SERVICES				
DENVER	- 6,190	6,423	- 12.2	14.4
NEW YORK	- 283,421	- 44,392	- 34.3	- 8.2
SAN FRANCISCO	- 10,658	4,168	- 18.6	8.9
WASHINGTON, DC.	- 4,869	377	- 24.2	2.5
TOTAL 15 CITIES	- 800,640	36,388	- 19.3	1.1

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 4A

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE
BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
WHOLESALE TRADE

	FULL AND PART-TIME EMPLOYMENT			PERCENT SHARE OF TOTAL EMP.		
	1969	1976	1980	1969	1976	1980
UNITED STATES	3,732,000	4,568,000	5,291,000	4.8	5.4	5.6
BOSTON	45,618	32,863	29,999	8.0	6.4	5.4
SUNBELT						
ATLANTA	62,542	74,974	90,449	10.9	11.6	11.9
HOUSTON	65,620	91,935	119,600	8.9	8.8	8.8
LOS ANGELES	191,285	229,408	273,683	6.2	7.1	7.3
NEW ORLEANS	24,944	25,535	25,253	8.0	7.6	7.4
PHOENIX	18,335	28,043	38,964	5.2	5.8	5.8
INDUSTRIAL						
CHICAGO	205,449	197,877	214,499	7.7	7.7	8.1
CLEVELAND	56,270	57,686	60,261	6.8	7.4	7.6
DETROIT	68,527	56,113	52,770	5.9	5.3	5.3
PHILADELPHIA	66,208	50,828	47,314	6.6	6.1	5.8
ST. LOUIS	34,499	28,600	29,669	7.8	7.4	7.8
BROAD-BASED SERVICES						
DENVER	32,336	34,015	39,893	9.4	9.2	9.1
NEW YORK	310,837	252,521	247,800	7.8	7.5	7.2
SAN FRANCISCO	42,273	37,859	40,605	7.9	7.3	6.8
WASHINGTON, DC.	20,599	13,073	11,875	3.3	2.0	1.8
TOTAL 15 CITIES	1,245,342	1,211,330	1,322,634			
PERCENT OF USA	33.4	26.5	25.0			

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 3B

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
TRANSPORTATION & UTILITIES

	CHANGE IN NO. EMPLOYEES		PERCENT CHANGE	
	1969-76	1976-80	1969-76	1976-80
UNITED STATES	113,000	588,000	2.5	12.9
BOSTON	- 7,040	2,578	- 16.7	7.3
SUNBELT				
ATLANTA	- 746	11,426	- 1.3	20.9
HOUSTON	16,982	19,527	28.6	25.6
LOS ANGELES	- 2,755	28,670	- 1.6	16.4
NEW ORLEANS	- 2,668	3,805	- 7.1	11.0
PHOENIX	5,747	7,223	31.8	30.3
INDUSTRIAL				
CHICAGO	- 20,992	- 1,371	- 11.2	- 0.8
CLEVELAND	- 8,691	- 720	- 16.5	- 1.6
DETROIT	- 10,612	- 679	- 15.1	- 1.1
PHILADELPHIA	- 13,122	- 3,504	- 18.9	- 6.2
ST. LOUIS	- 5,964	381	- 16.0	1.2
BROAD-BASED SERVICES				
DENVER	2,021	7,455	6.3	21.8
NEW YORK	- 60,333	- 5,562	- 18.3	- 2.1
SAN FRANCISCO	- 12,272	4,929	- 20.2	10.2
WASHINGTON, DC.	- 6,860	- 424	- 20.8	- 1.6
TOTAL 15 CITIES	- 127,305	73,734	- 10.1	6.5

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 5A

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE
BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
RETAIL TRADE

	FULL AND PART-TIME EMPLOYMENT			PERCENT SHARE OF TOTAL EMP.		
	1969	1976	1980	1969	1976	1980
UNITED STATES	11,206,000	13,284,000	15,086,000	14.6	15.7	15.8
BOSTON	81,406	60,236	60,701	14.3	11.7	10.9
SUNBELT						
ATLANTA	88,476	104,282	117,640	15.4	16.1	15.5
HOUSTON	112,347	162,519	208,593	15.2	15.5	15.4
LOS ANGELES	445,299	490,124	552,251	14.5	15.2	14.7
NEW ORLEANS	42,598	50,055	47,776	13.6	14.9	13.9
PHOENIX	60,819	90,717	123,158	17.4	18.9	18.4
INDUSTRIAL						
CHICAGO	378,232	382,105	391,520	14.2	14.9	14.8
CLEVELAND	118,182	117,627	121,599	14.2	15.1	15.4
DETROIT	165,259	154,563	143,837	14.1	14.5	14.4
PHILADELPHIA	125,121	103,649	98,707	12.5	12.4	12.1
ST. LOUIS	47,128	38,953	34,061	10.7	10.1	8.9
BROAD-BASED SERVICES						
DENVER	52,232	52,179	57,825	15.2	14.1	13.2
NEW YORK	448,912	379,252	368,600	11.3	11.2	10.7
SAN FRANCISCO	59,907	57,518	69,222	11.2	11.1	11.7
WASHINGTON, DC.	65,440	51,015	51,328	10.4	7.9	7.7
TOTAL 15 CITIES	2,291,358	2,294,794	2,446,818			
PERCENT OF USA	20.4	17.3	16.2			

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 4B

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE
BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
WHOLESALE TRADE

	CHANGE IN NO. EMPLOYEES		PERCENT CHANGE	
	1969-76	1976-80	1969-76	1976-80
UNITED STATES	836,000	723,000	22.4	15.8
BOSTON	- 12,755	- 2,864	- 28.0	- 8.7
SUNBELT				
ATLANTA	12,432	15,475	19.9	20.6
HOUSTON	26,315	27,665	40.1	30.1
LOS ANGELES	38,123	44,275	19.9	19.3
NEW ORLEANS	591	- 282	2.4	- 1.1
PHOENIX	9,708	10,921	52.9	38.9
INDUSTRIAL				
CHICAGO	- 7,572	16,622	- 3.7	8.4
CLEVELAND	1,416	2,575	2.5	4.5
DETROIT	- 12,414	- 3,343	- 18.1	- 6.0
PHILADELPHIA	- 15,380	- 3,514	- 23.2	- 6.9
ST. LOUIS	- 5,899	1,069	- 17.1	3.7
BROAD-BASED SERVICES				
DENVER	1,679	5,878	5.2	17.3
NEW YORK	- 58,316	- 4,721	- 18.8	- 1.9
SAN FRANCISCO	- 4,414	2,746	- 10.4	7.3
WASHINGTON, DC.	- 7,526	- 1,198	- 36.5	- 9.2
TOTAL 15 CITIES	- 34,012	111,304	- 2.7	9.2

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 6A

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
FINANCE

	FULL AND PART-TIME EMPLOYMENT			PERCENT SHARE OF TOTAL EMP.		
	1969	1976	1980	1969	1976	1980
UNITED STATES	3,598,000	4,381,000	5,268,000	4.7	5.2	5.5
BOSTON	70,512	63,322	71,163	12.4	12.3	12.8
SUNBELT						
ATLANTA	42,664	53,797	62,222	7.4	8.3	8.2
HOUSTON	40,492	60,232	85,647	5.5	5.7	6.3
LOS ANGELES	170,535	197,212	248,204	5.6	6.1	6.6
NEW ORLEANS	21,238	22,820	22,819	6.8	6.8	6.7
PHOENIX	20,125	34,459	47,602	5.7	7.2	7.1
INDUSTRIAL						
CHICAGO	171,709	186,092	212,654	6.4	7.3	8.1
CLEVELAND	39,191	40,973	44,424	4.7	5.3	5.6
DETROIT	63,090	57,514	55,316	5.4	5.4	5.5
PHILADELPHIA	72,844	68,201	69,671	7.3	8.1	8.6
ST. LOUIS	26,625	24,650	27,220	6.1	6.4	7.1
BROAD-BASED SERVICES						
DENVER	23,629	30,496	38,522	6.9	8.2	8.8
NEW YORK	479,371	433,250	464,393	12.1	12.8	13.5
SAN FRANCISCO	66,682	73,492	88,000	12.4	14.2	14.8
WASHINGTON, DC.	33,713	32,757	35,468	5.3	5.1	5.3
TOTAL 15 CITIES	1,342,420	1,379,267	1,573,325			
PERCENT OF USA	37.3	31.5	29.9			

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 5B

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
RETAIL TRADE

	CHANGE IN NO. EMPLOYEES		PERCENT CHANGE	
	1969-76	1976-80	1969-76	1976-80
UNITED STATES	2,078,000	1,802,000	18.5	13.6
BOSTON	- 21,170	465	- 26.0	0.8
SUNBELT				
ATLANTA	15,806	13,358	17.9	12.8
HOUSTON	50,172	46,074	44.7	28.3
LOS ANGELES	44,825	62,127	10.1	12.7
NEW ORLEANS	7,457	- 2,279	17.5	- 4.6
PHOENIX	29,898	32,441	49.2	35.8
INDUSTRIAL				
CHICAGO	3,873	9,415	1.0	2.5
CLEVELAND	- 555	3,972	- 0.5	3.4
DETROIT	- 10,696	- 10,726	- 6.5	- 6.9
PHILADELPHIA	- 21,472	- 4,942	- 17.2	- 4.8
ST. LOUIS	- 8,175	- 4,892	- 17.3	- 12.6
BROAD-BASED SERVICES				
DENVER	- 53	5,646	- 0.1	10.8
NEW YORK	- 69,660	- 10,652	- 15.5	- 2.8
SAN FRANCISCO	- 2,389	11,704	- 4.0	20.3
WASHINGTON, DC.	- 14,425	313	- 22.0	0.6
TOTAL 15 CITIES	3,436	152,024	0.1	6.6

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 7A

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
SERVICES

	FULL AND PART-TIME EMPLOYMENT			PERCENT SHARE OF TOTAL EMP.		
	1969	1976	1980	1969	1976	1980
UNITED STATES	13,311,000	16,441,000	19,395,000	17.3	19.4	20.4
BOSTON	137,077	161,791	191,483	24.1	31.5	34.3
SUNBELT						
ATLANTA	118,588	146,388	178,812	20.6	22.7	23.5
HOUSTON	151,962	220,208	283,202	20.5	21.0	20.9
LOS ANGELES	606,264	718,488	904,333	19.8	22.3	24.1
NEW ORLEANS	76,736	87,535	91,914	24.6	26.1	26.8
PHOENIX	64,553	96,713	137,188	18.4	20.1	20.5
INDUSTRIAL						
CHICAGO	450,038	513,253	555,935	16.9	20.0	21.0
CLEVELAND	135,900	159,187	172,513	16.4	20.4	21.8
DETROIT	191,648	209,182	218,611	16.4	19.6	21.8
PHILADELPHIA	205,371	216,275	234,589	20.6	25.8	28.8
ST. LOUIS	96,093	101,239	105,794	21.9	26.4	27.7
BROAD-BASED SERVICES						
DENVER	66,294	83,439	105,207	19.3	22.6	24.0
NEW YORK	889,241	880,732	974,957	22.4	26.0	28.3
SAN FRANCISCO	115,259	137,016	164,051	21.5	26.5	27.6
WASHINGTON, DC.	163,239	175,330	201,926	25.8	27.2	30.4
TOTAL 15 CITIES	3,468,263	3,906,776	4,520,515			
PERCENT OF USA	26.1	23.8	23.3			

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 6B

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE
BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
FINANCE

	CHANGE IN NO. EMPLOYEES		PERCENT CHANGE	
	1969-76	1976-80	1969-76	1976-80
UNITED STATES	783,000	887,000	21.8	20.2
BOSTON	- 7,190	7,841	- 10.2	12.4
SUNBELT				
ATLANTA	11,133	8,425	26.1	15.7
HOUSTON	19,740	25,415	48.8	42.2
LOS ANGELES	26,677	50,992	15.6	25.9
NEW ORLEANS	1,582	- 1	7.4	- 0.0
PHOENIX	14,334	13,143	71.2	38.1
INDUSTRIAL				
CHICAGO	14,383	26,562	8.4	14.3
CLEVELAND	1,782	3,451	4.5	8.4
DETROIT	- 5,576	- 2,198	- 8.8	- 3.8
PHILADELPHIA	- 4,643	1,470	- 6.4	2.2
ST. LOUIS	- 1,975	2,570	- 7.4	10.4
BROAD-BASED SERVICES				
DENVER	6,867	8,026	29.1	26.3
NEW YORK	- 46,121	31,143	- 9.6	7.2
SAN FRANCISCO	6,810	14,508	10.2	19.7
WASHINGTON, DC.	- 956	2,711	- 2.8	8.3
TOTAL 15 CITIES	36,847	194,058	2.7	14.1

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 8A

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
GOVERNMENT

	FULL AND PART-TIME EMPLOYMENT 1969	1976	1980	PERCENT SHARE OF TOTAL EMP. 1969	1976	1980
UNITED STATES	15,883,000	17,718,000	18,801,000	20.6	20.9	19.7
BOSTON	96,427	88,518	100,167	17.0	17.2	18.0
SUNBELT						
ATLANTA	86,203	108,144	124,627	15.0	16.7	16.4
HOUSTON	89,267	125,493	146,108	12.0	12.0	10.8
LOS ANGELES	462,077	504,119	503,357	15.1	15.6	13.4
NEW ORLEANS	51,883	59,142	62,722	16.6	17.7	18.3
PHOENIX	69,428	102,632	117,260	19.8	21.4	17.6
INDUSTRIAL						
CHICAGO	317,039	352,915	357,996	11.9	13.8	13.6
CLEVELAND	101,987	105,789	106,148	12.3	13.6	13.4
DETROIT	153,300	149,155	149,106	13.1	14.0	14.9
PHILADELPHIA	160,288	163,426	155,028	16.1	19.5	19.0
ST. LOUIS	63,834	56,611	56,117	14.5	14.7	14.7
BROAD-BASED SERVICES						
DENVER	65,586	71,376	74,876	19.1	19.3	17.1
NEW YORK	577,113	557,080	536,768	14.5	16.4	15.6
SAN FRANCISCO	112,973	95,888	103,099	21.1	18.5	17.4
WASHINGTON, DC.	274,009	312,554	305,564	43.4	48.4	46.0
TOTAL 15 CITIES	2,681,414	2,852,842	2,898,943			
PERCENT OF USA	16.9	16.1	15.4			

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 7B

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE BY CITY, 1969-1980 BOSTON AND 14 CENTRAL CITY COUNTIES AND USA SERVICES

	CHANGE IN NO. EMPLOYEES		PERCENT CHANGE	
	1969-76	1976-80	1969-76	1976-80
UNITED STATES	3,130,000	2,954,008	23.5	18.0
BOSTON	24,714	29,692	18.0	18.4
SUNBELT				
ATLANTA	27,800	32,424	23.4	22.1
HOUSTON	68,246	62,994	44.9	28.6
LOS ANGELES	112,224	185,845	18.5	25.9
NEW ORLEANS	10,799	4,379	14.1	5.0
PHOENIX	32,160	40,475	49.8	41.9
INDUSTRIAL				
CHICAGO	63,215	42,682	14.0	8.3
CLEVELAND	23,287	13,326	17.1	8.4
DETROIT	17,534	9,429	9.1	4.5
PHILADELPHIA	10,904	18,314	5.3	8.5
ST. LOUIS	5,146	4,555	5.4	4.5
BROAD-BASED SERVICES				
DENVER	17,145	21,768	25.9	26.1
NEW YORK	- 8,509	94,225	- 1.0	10.7
SAN FRANCISCO	21,757	27,035	18.9	19.7
WASHINGTON, DC.	12,091	26,596	7.4	15.2
TOTAL 15 CITIES	438,513	613,739	12.6	15.7

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 9A

NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE
BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
CONSTRUCTION & OTHER

	FULL AND PART-TIME EMPLOYMENT			PERCENT SHARE OF TOTAL EMP.		
	1969	1976	1980	1969	1976	1980
UNITED STATES	4,524,032	4,796,016	5,925,984	5.9	5.7	6.2
BOSTON	21,817	15,107	11,437	3.8	2.9	2.1
SUNBELT						
ATLANTA	33,909	24,446	35,478	5.9	3.8	4.7
HOUSTON	88,227	147,404	209,707	11.9	14.0	15.5
LOS ANGELES	126,518	116,469	147,627	4.1	3.6	3.9
NEW ORLEANS	25,163	28,981	28,292	8.1	8.6	8.3
PHOENIX	23,161	28,356	58,644	6.6	5.9	8.8
INDUSTRIAL						
CHICAGO	122,675	88,631	100,030	4.6	3.5	3.8
CLEVELAND	41,115	27,851	29,963	5.0	3.6	3.8
DETROIT	41,298	26,929	25,058	3.5	2.5	2.5
PHILADELPHIA	38,011	18,465	21,008	3.8	2.2	2.6
ST. LOUIS	11,266	8,802	9,676	2.6	2.3	2.5
BROAD-BASED SERVICES						
DENVER	20,676	19,665	28,877	6.0	5.3	6.6
NEW YORK	113,520	73,855	84,551	2.9	2.2	2.5
SAN FRANCISCO	21,480	21,024	24,257	4.0	4.1	4.1
WASHINGTON, DC.	21,584	19,324	16,820	3.4	3.0	2.5
TOTAL 15 CITIES	750,420	665,309	831,425			
PERCENT OF USA	16.6	13.9	14.0			

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 8B

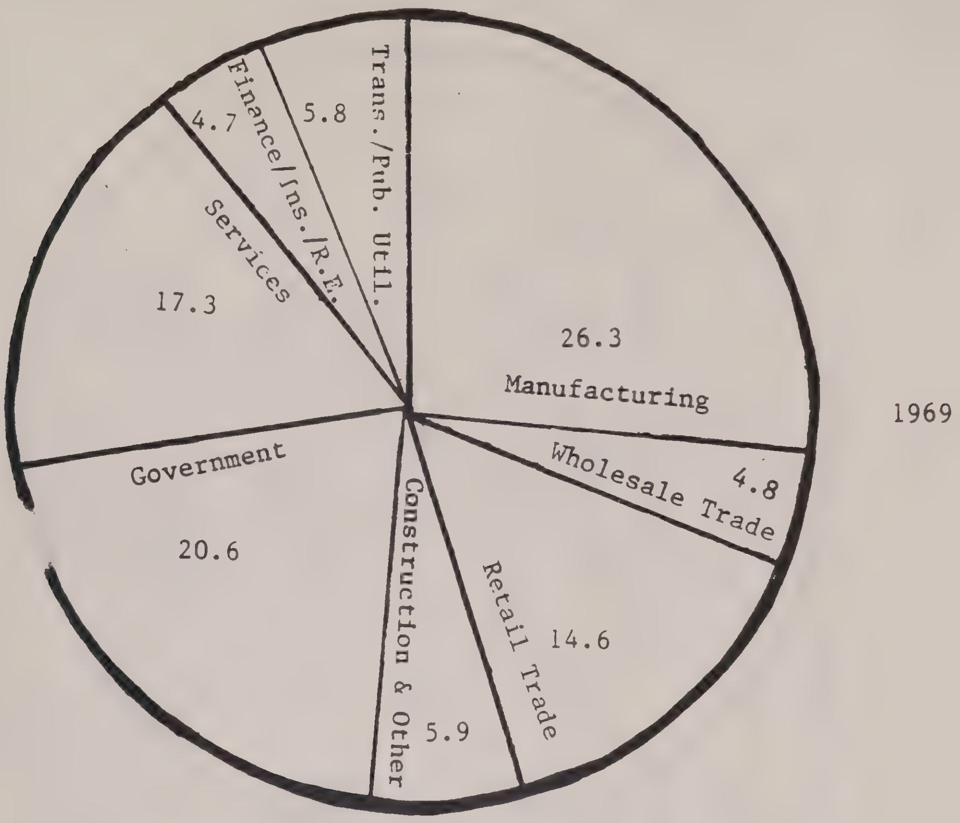
NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE BY CITY, 1969-1980 BOSTON AND 14 CENTRAL CITY COUNTIES AND USA GOVERNMENT

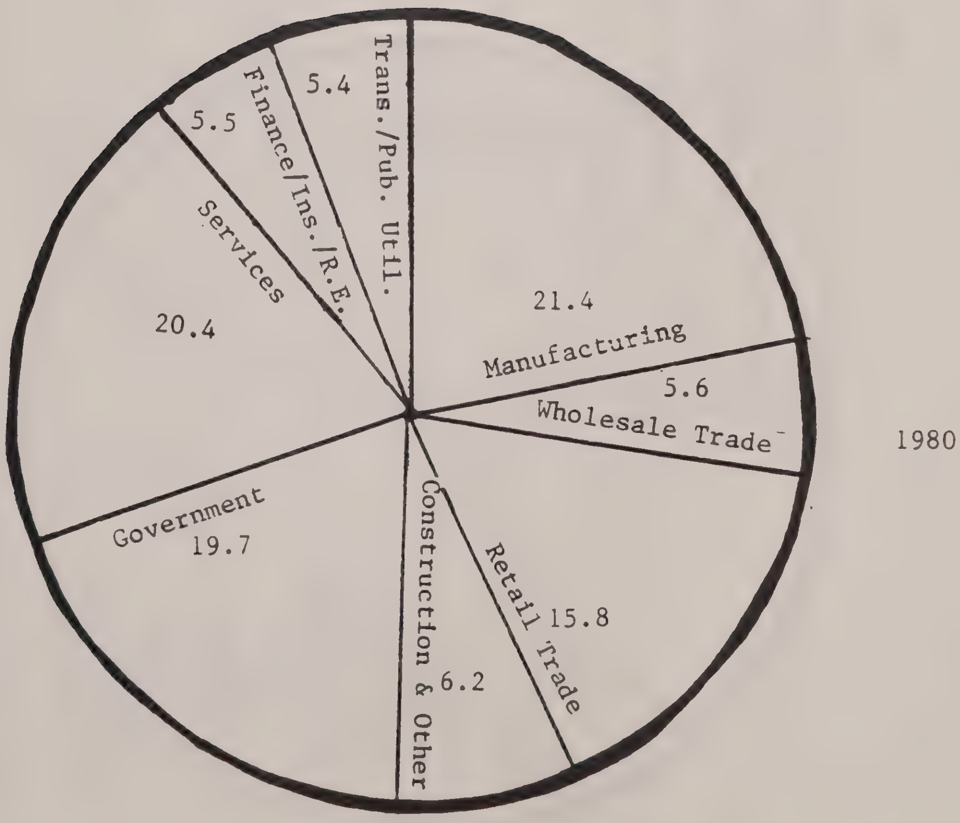
	CHANGE IN NO. EMPLOYEES		PERCENT CHANGE	
	1969-76	1976-80	1969-76	1976-80
UNITED STATES	1,835,000	1,083,008	11.6	6.1
BOSTON	- 7,909	11,649	- 8.2	13.2
SUNBELT				
ATLANTA	21,941	16,483	25.5	15.2
HOUSTON	36,226	20,615	40.6	16.4
LOS ANGELES	42,042	- 762	9.1	- 0.2
NEW ORLEANS	7,259	3,580	14.0	6.1
PHOENIX	33,204	14,628	47.8	14.3
INDUSTRIAL				
CHICAGO	35,876	5,081	11.3	1.4
CLEVELAND	3,802	359	3.7	0.3
DETROIT	- 4,145	- 49	- 2.7	- 0.0
PHILADELPHIA	3,138	- 8,398	2.0	- 5.1
ST. LOUIS	- 7,223	- 494	- 11.3	- 0.9
BROAD-BASED SERVICES				
DENVER	5,790	3,500	8.8	4.9
NEW YORK	- 20,033	- 20,312	- 3.5	- 3.6
SAN FRANCISCO	- 17,085	7,211	- 15.1	7.5
WASHINGTON, DC.	38,545	- 6,990	14.1	- 2.2
TOTAL 15 CITIES	171,428	46,101	6.4	1.6

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

FIGURE 1

PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: UNITED STATES





Source: U.S. Department of Commerce, Bureau of Economic Analysis.

TABLE 9B

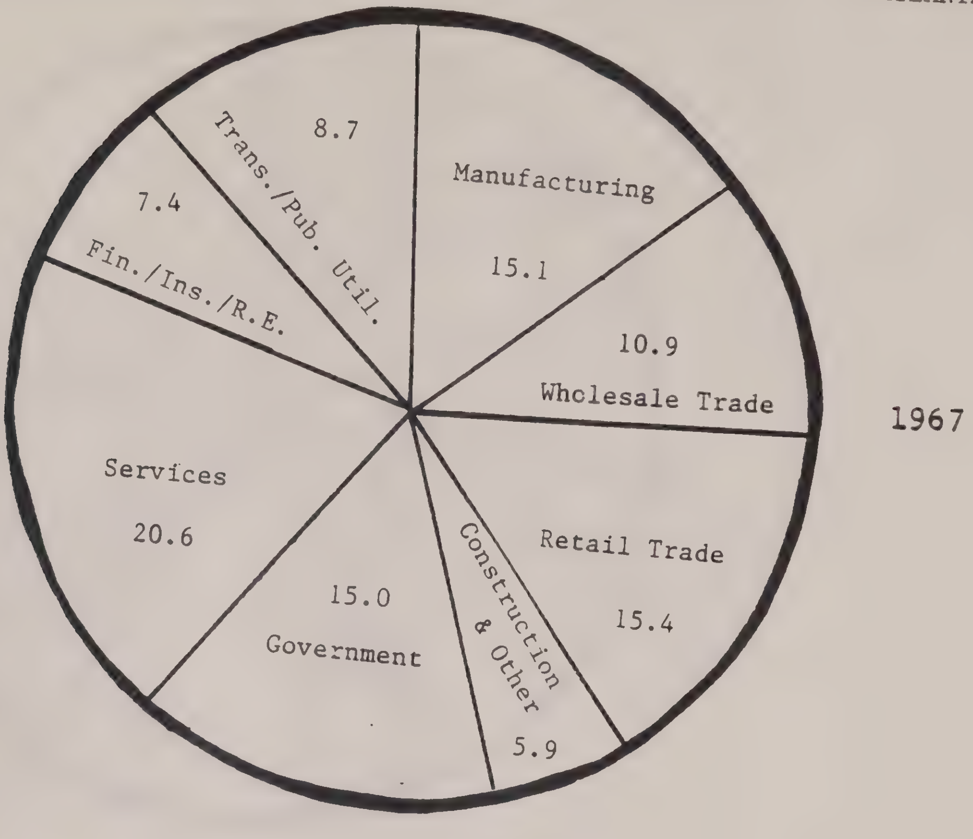
NON-FARM WAGE & SALARY EMPLOYMENT AND PERCENT CHANGE
BY CITY, 1969-1980
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA
CONSTRUCTION & OTHER

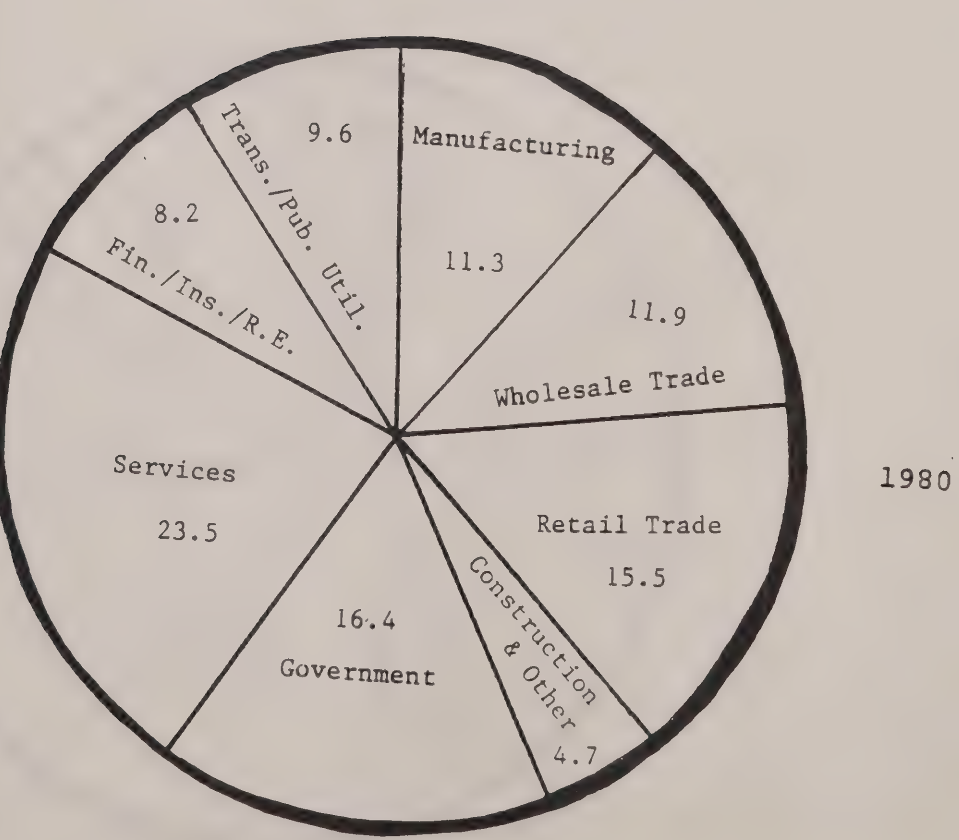
	CHANGE IN NO. EMPLOYEES		PERCENT CHANGE	
	1969-76	1976-80	1969-76	1976-80
UNITED STATES	271,984	1,129,968	6.0	23.6
BOSTON	- 6,710	- 3,670	- 30.8	- 24.3
SUNBELT				
ATLANTA	- 9,463	11,032	- 27.9	45.1
HOUSTON	59,177	62,303	67.1	42.3
LOS ANGELES	- 10,049	31,158	- 7.9	26.8
NEW ORLEANS	3,818	- 689	15.2	- 2.4
PHOENIX	5,195	30,288	22.4	106.8
INDUSTRIAL				
CHICAGO	- 34,044	11,399	- 27.8	12.9
CLEVELAND	- 13,264	2,112	- 32.3	7.6
DETROIT	- 14,369	- 1,871	- 34.8	- 6.9
PHILADELPHIA	- 19,546	2,543	- 51.4	13.8
ST. LOUIS	- 2,464	874	- 21.9	9.9
BROAD-BASED SERVICES				
DENVER	- 1,011	9,212	- 4.9	46.8
NEW YORK	- 39,665	10,696	- 34.9	14.5
SAN FRANCISCO	- 456	3,233	- 2.1	15.4
WASHINGTON, DC.	- 2,260	- 2,504	- 10.5	- 13.0
TOTAL 15 CITIES	- 85,111	166,116	- 11.3	25.0

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

FIGURE 3A

PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: ATLANTA

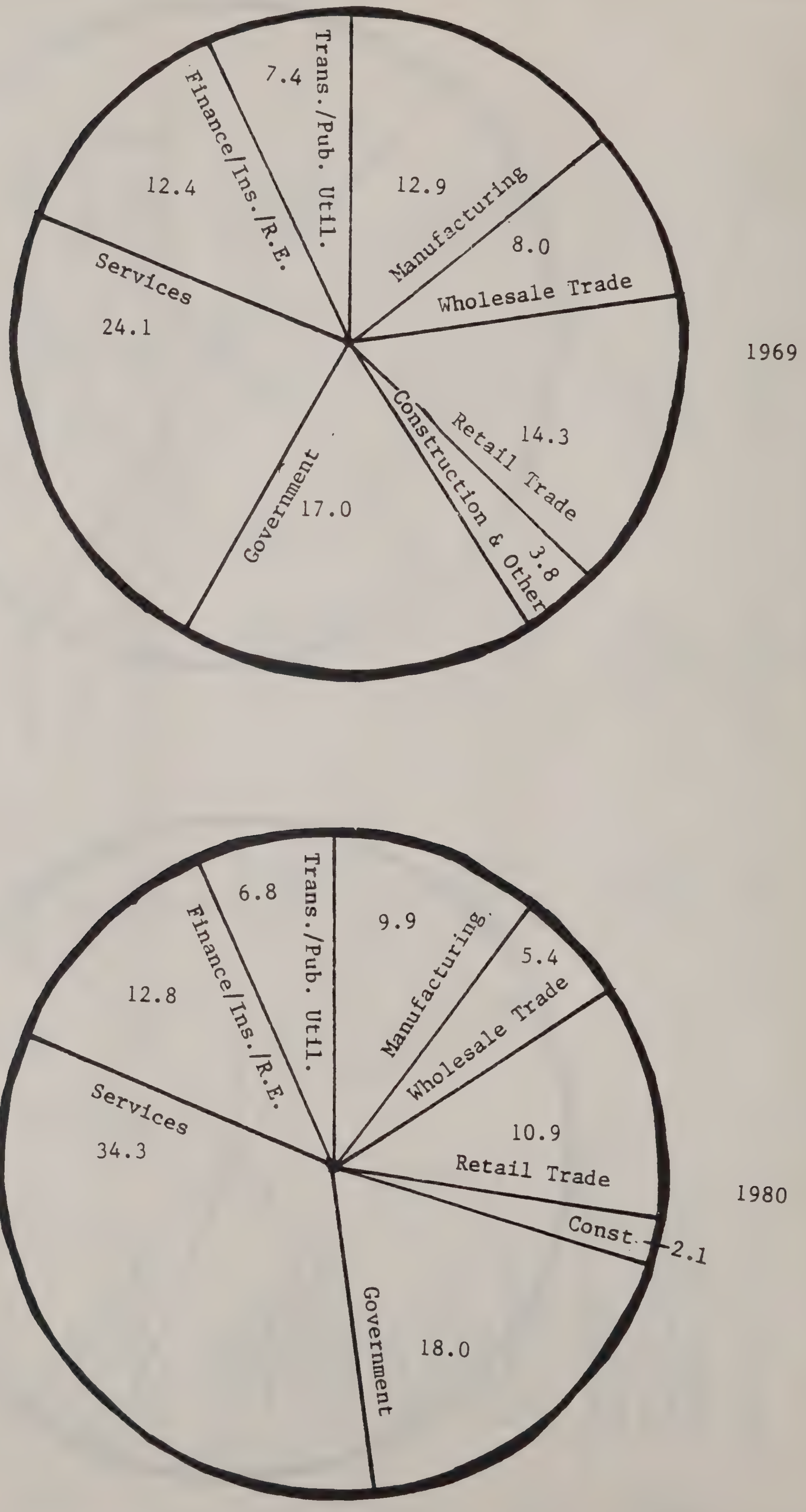




Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 2

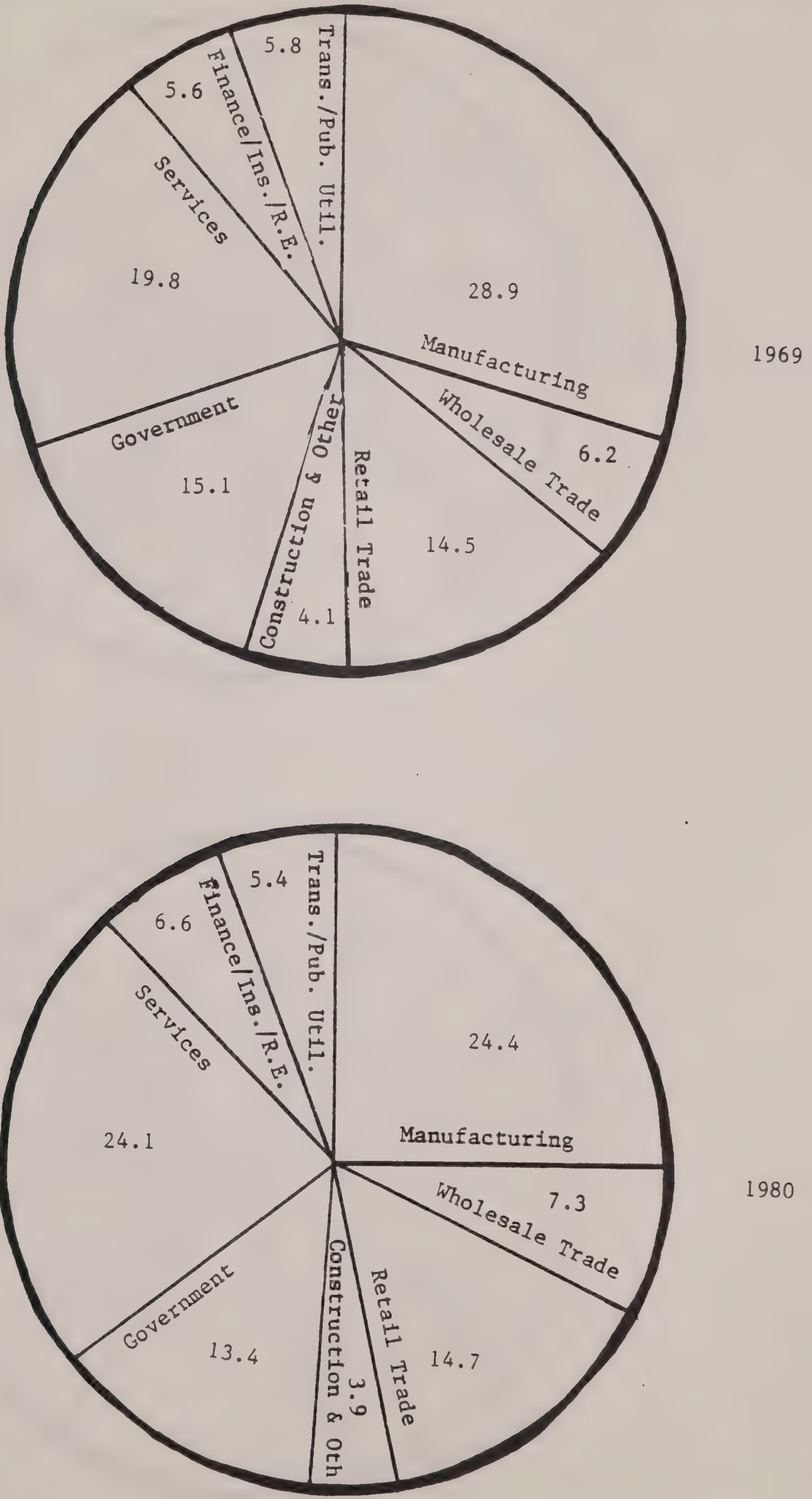
PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: BOSTON



Source: U.S. Department of Commerce, Bureau of Economic Analysi

FIGURE 4

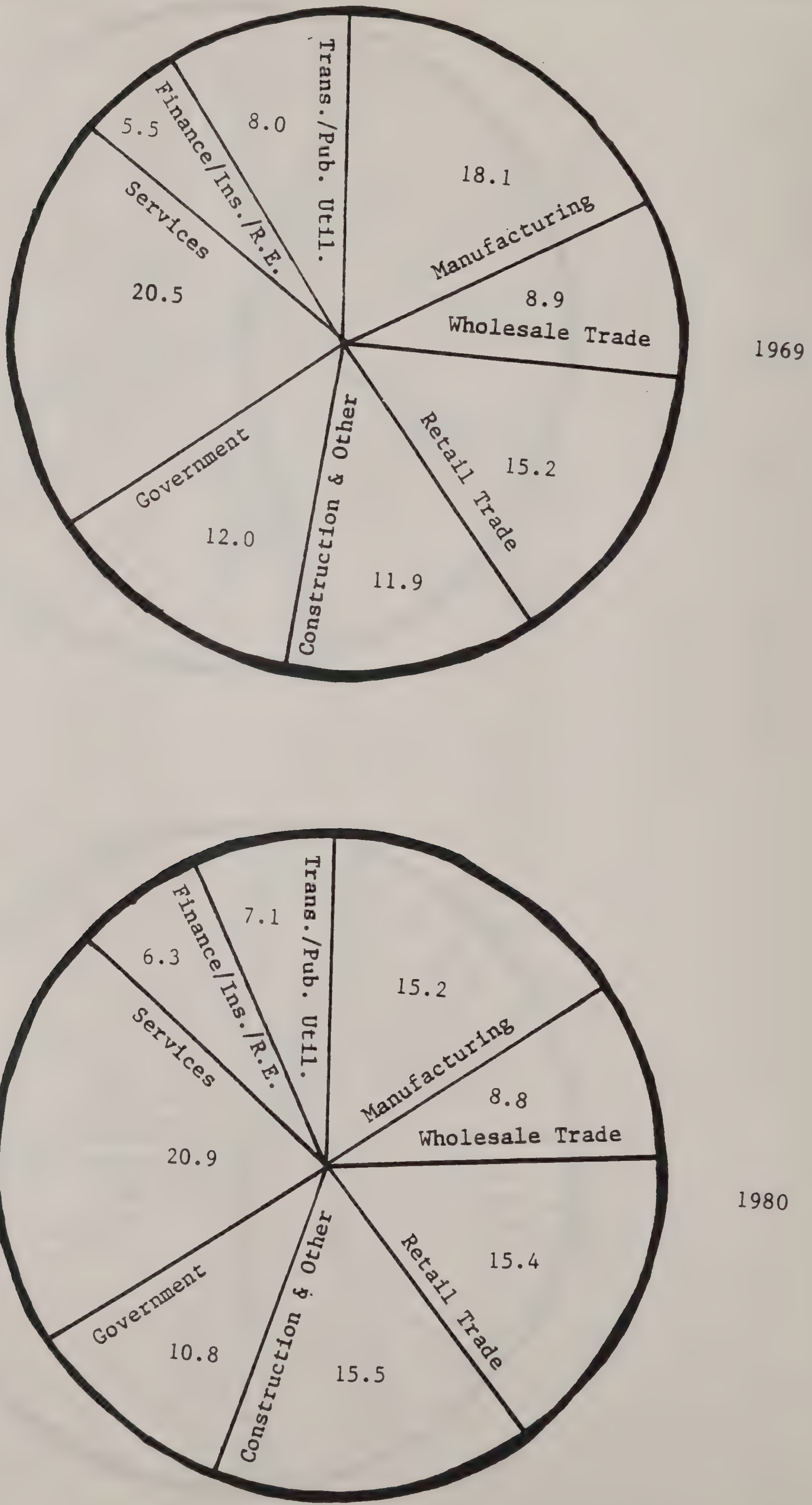
PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980 : LOS ANGELES



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 3B

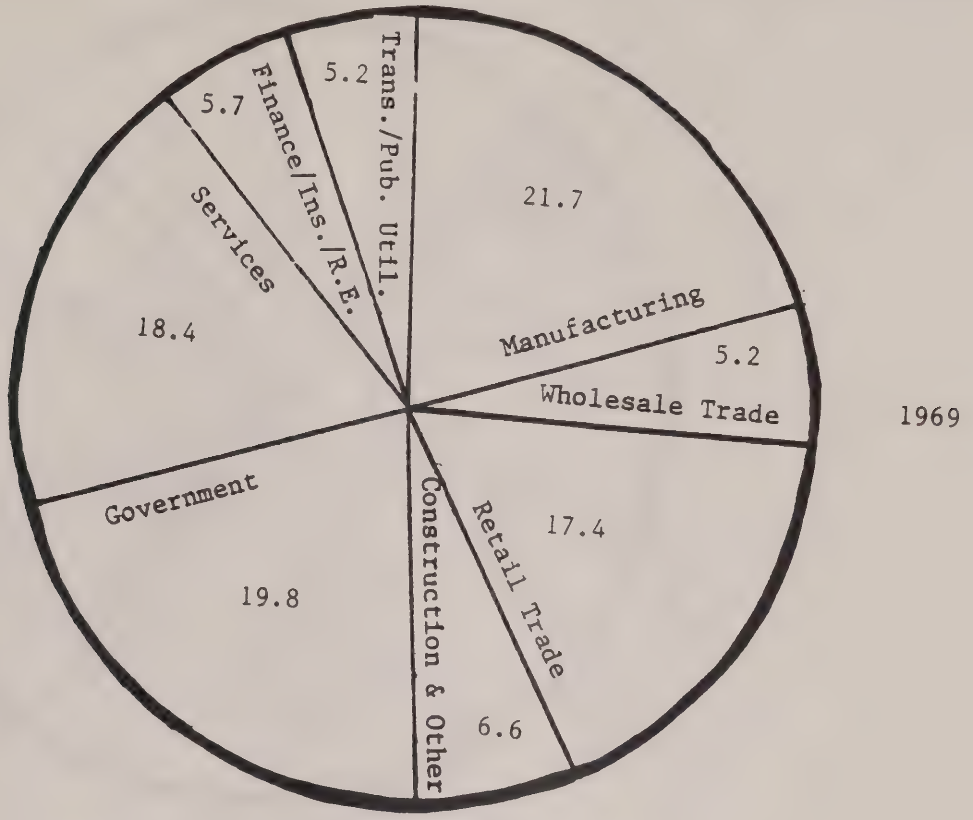
PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: HOUSTON

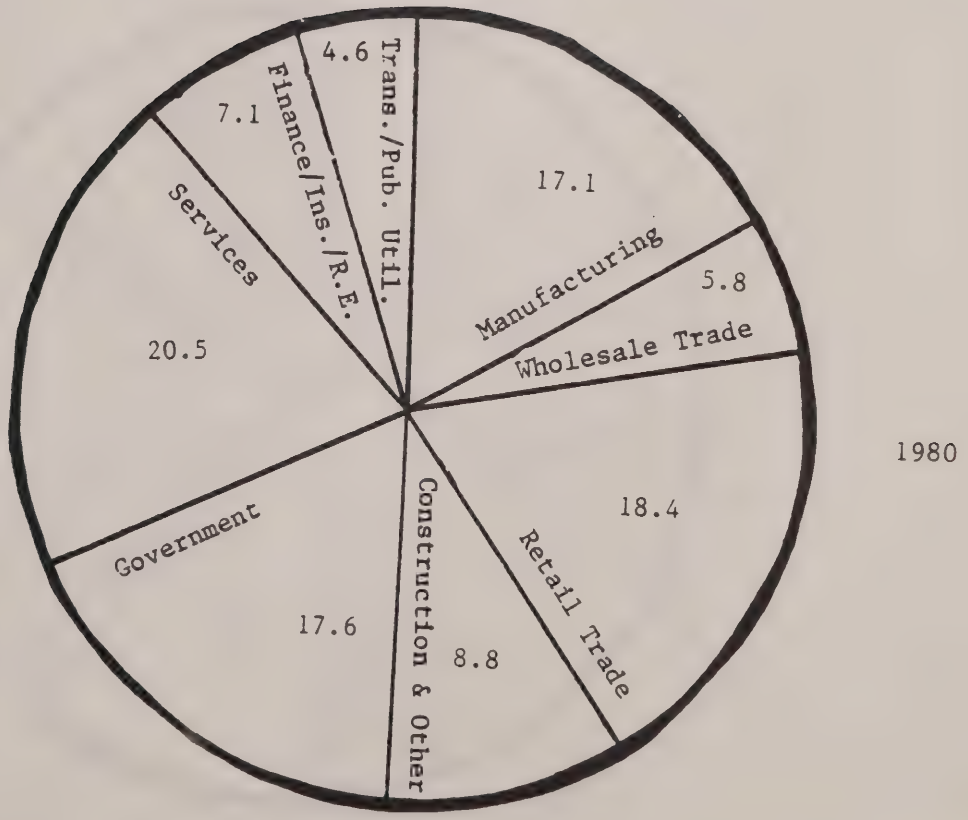


Source: U.S. Department of Commerce, Bureau of Economic Analysis

FIGURE 6

PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: PHOENIX

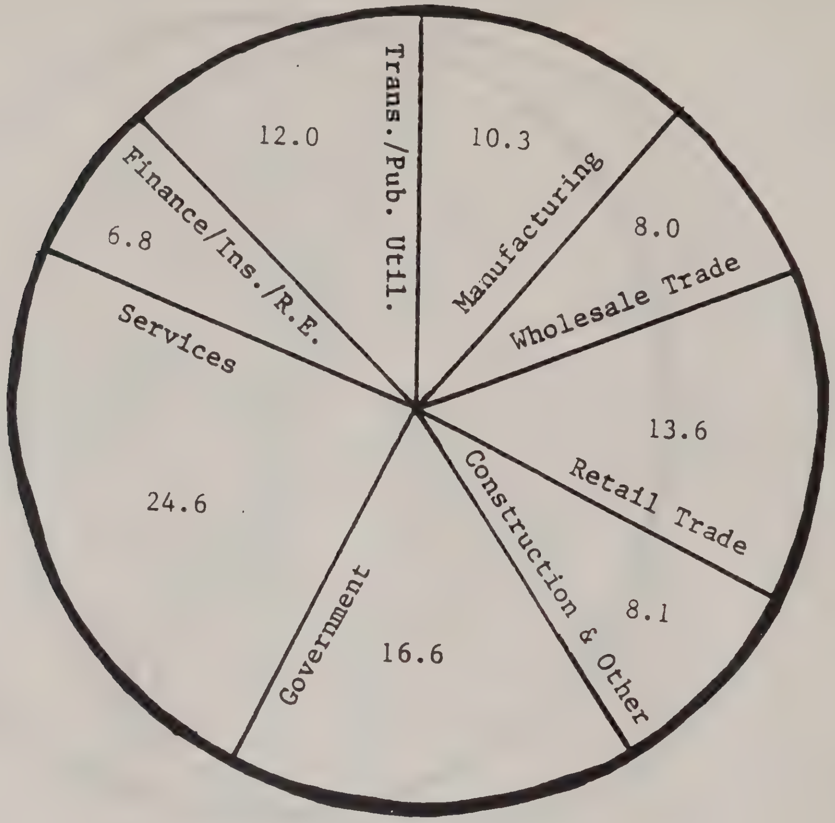




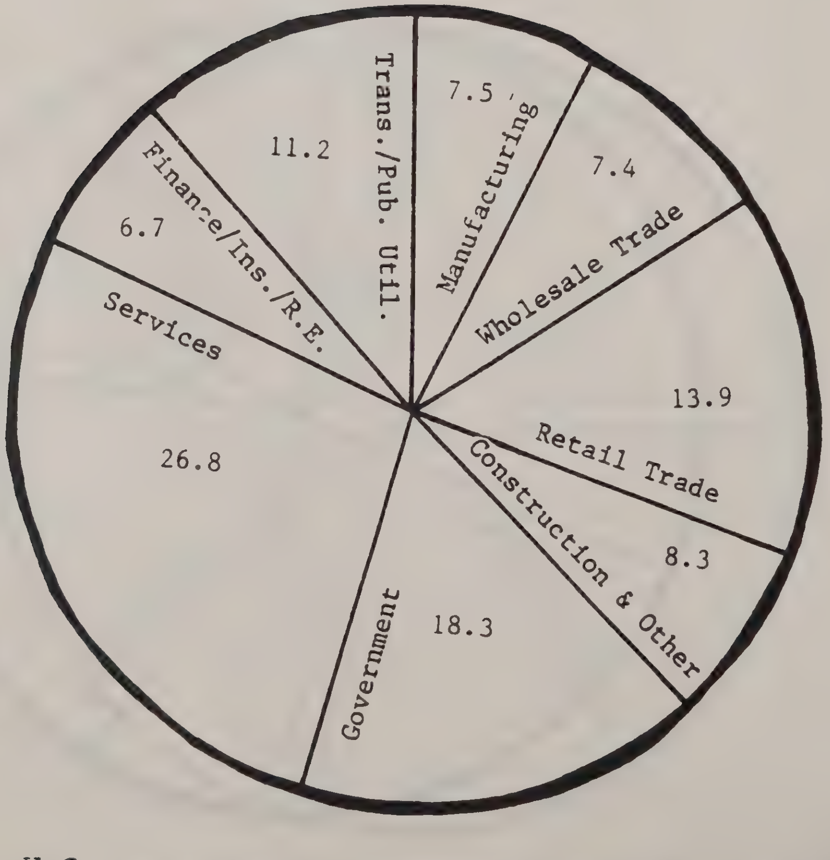
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 5

PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: NEW ORLEANS



1969

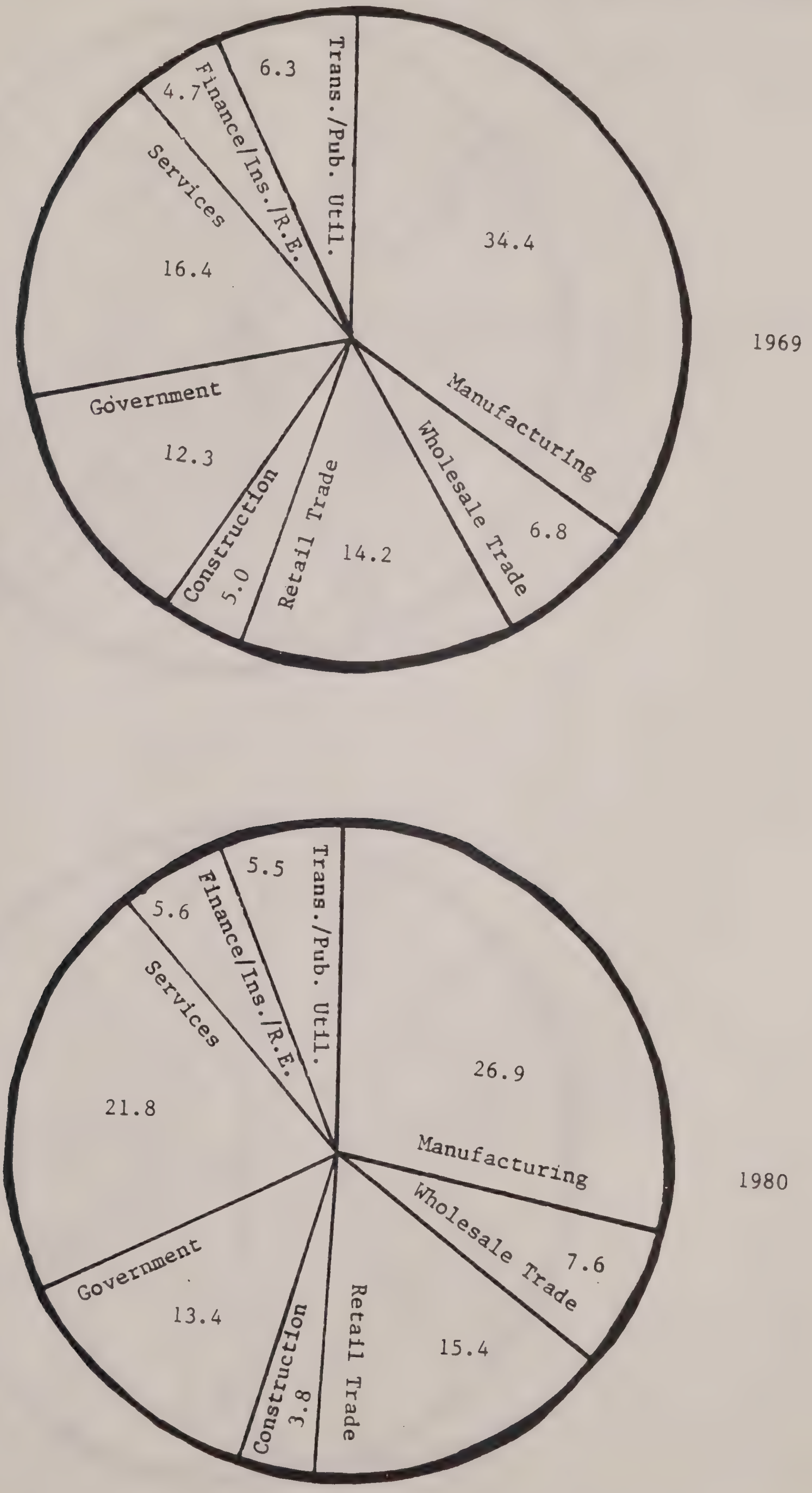


1980

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 8

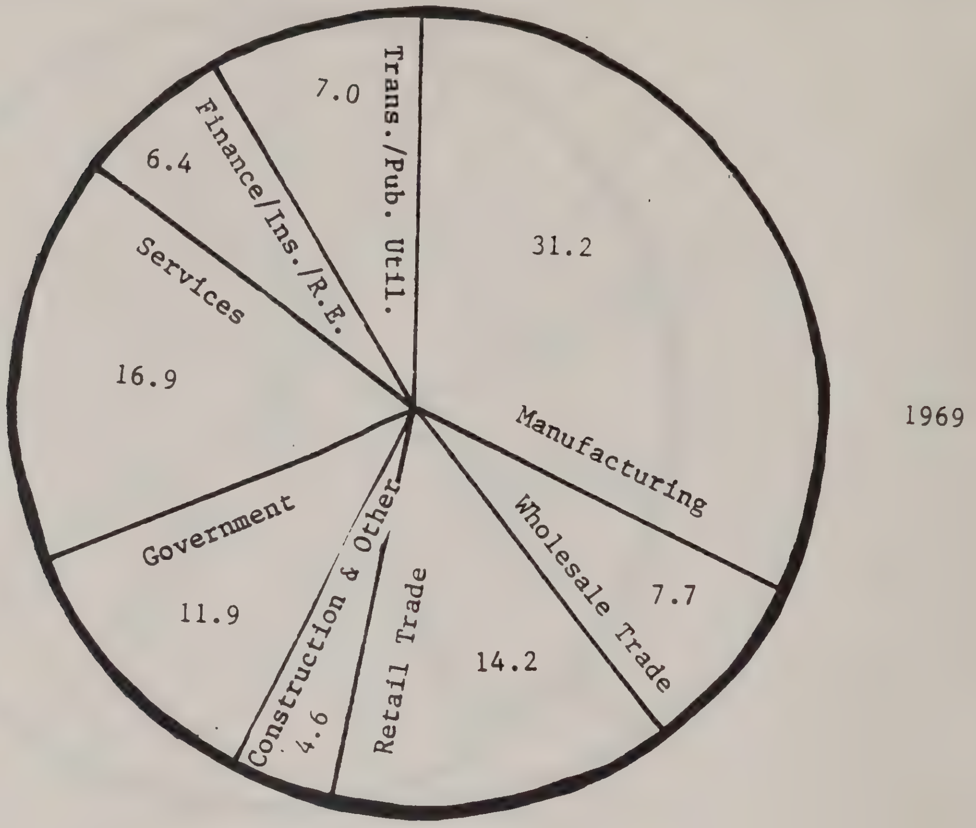
PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: CLEVELAND

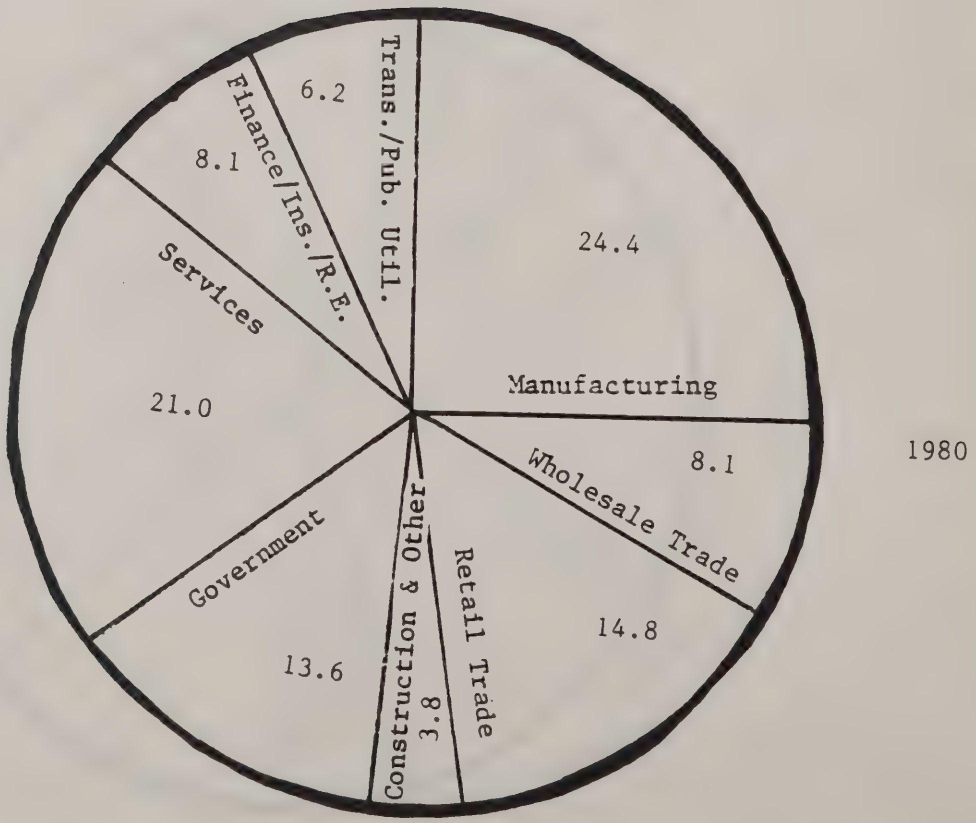


Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 7

PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: CHICAGO

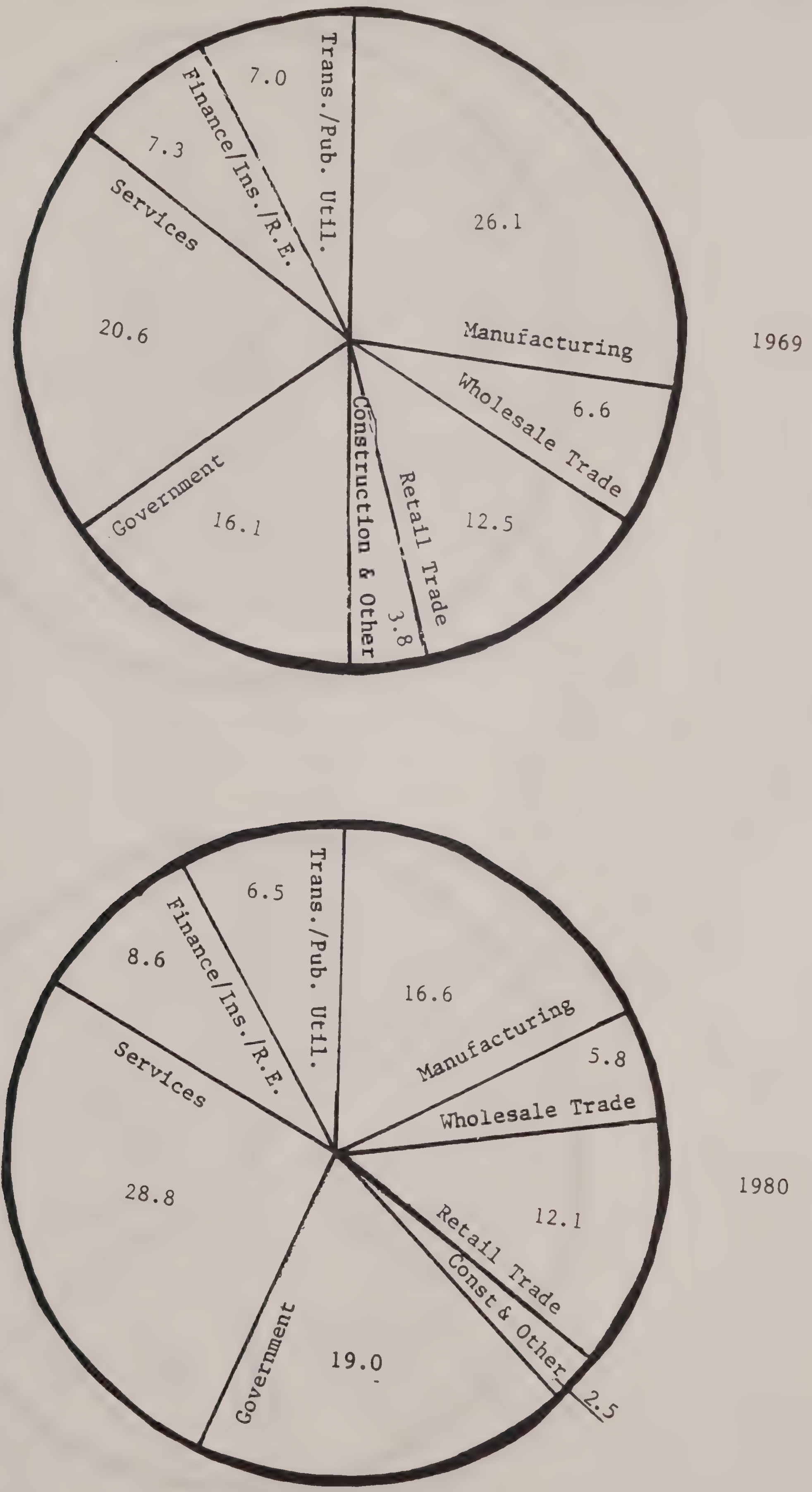




Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 9B

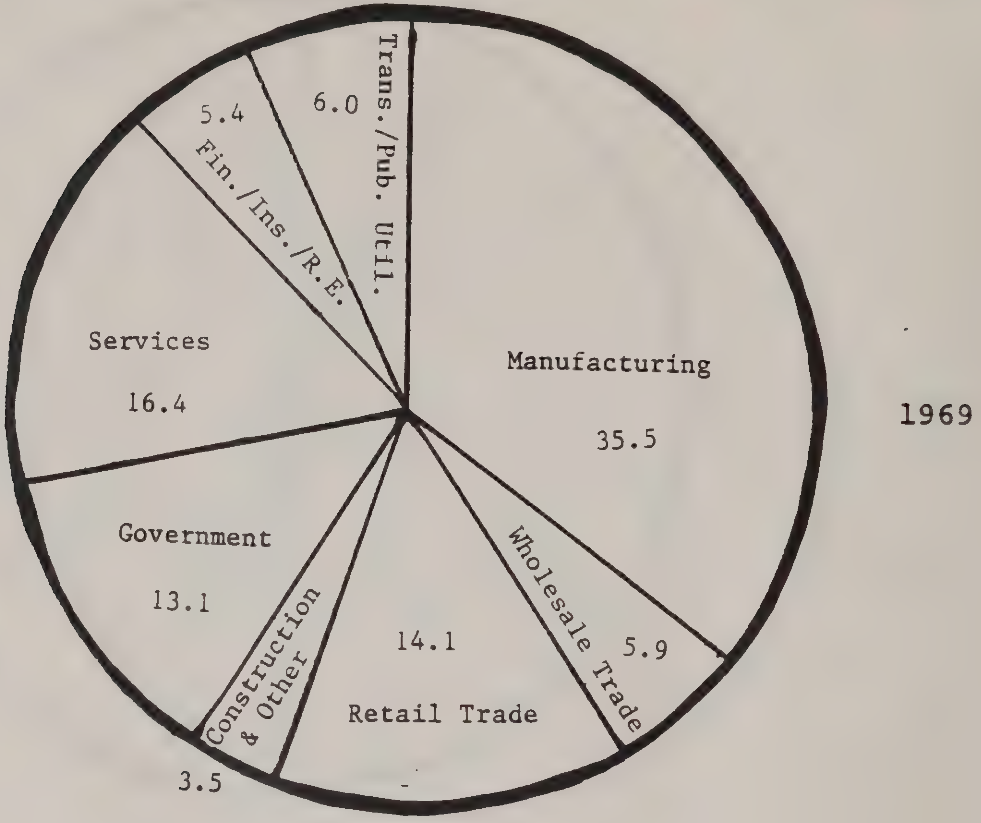
PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: PHILADELPHIA

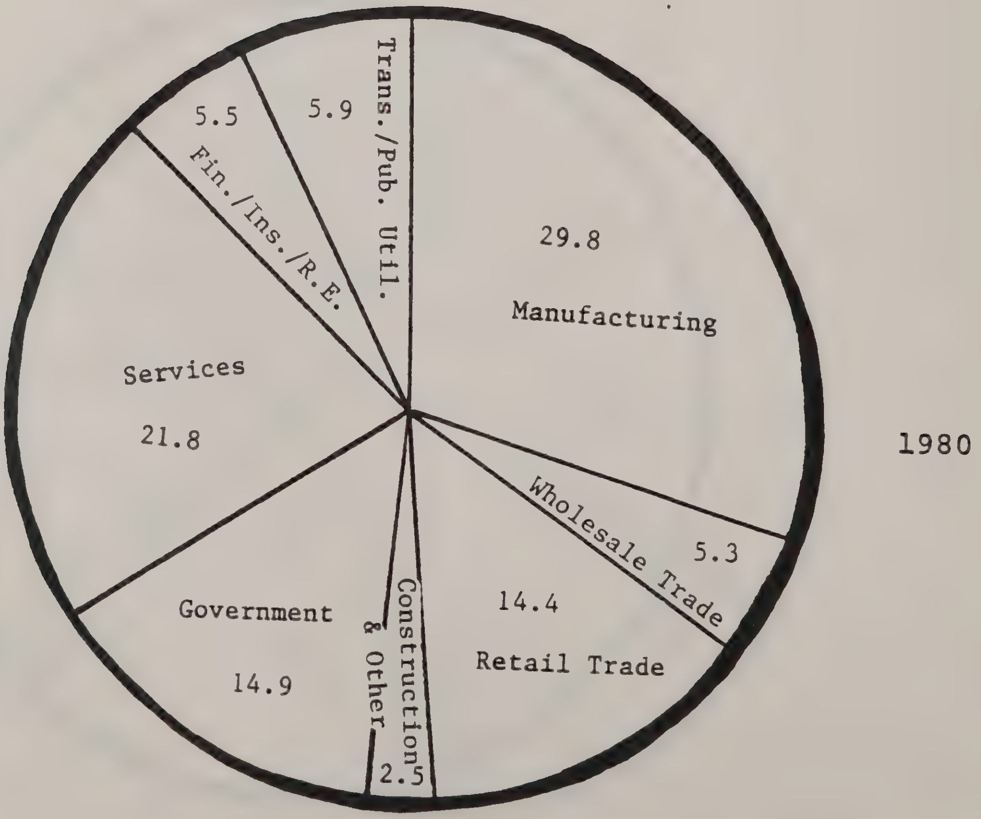


Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 9A

PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: DETROIT

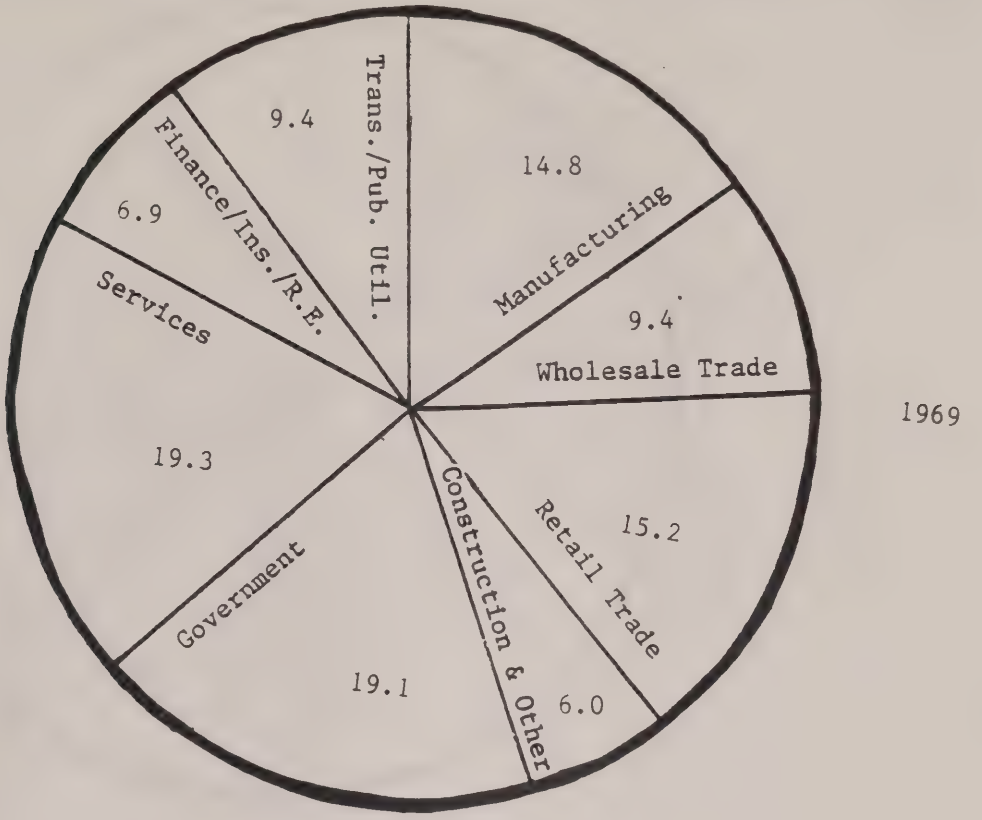


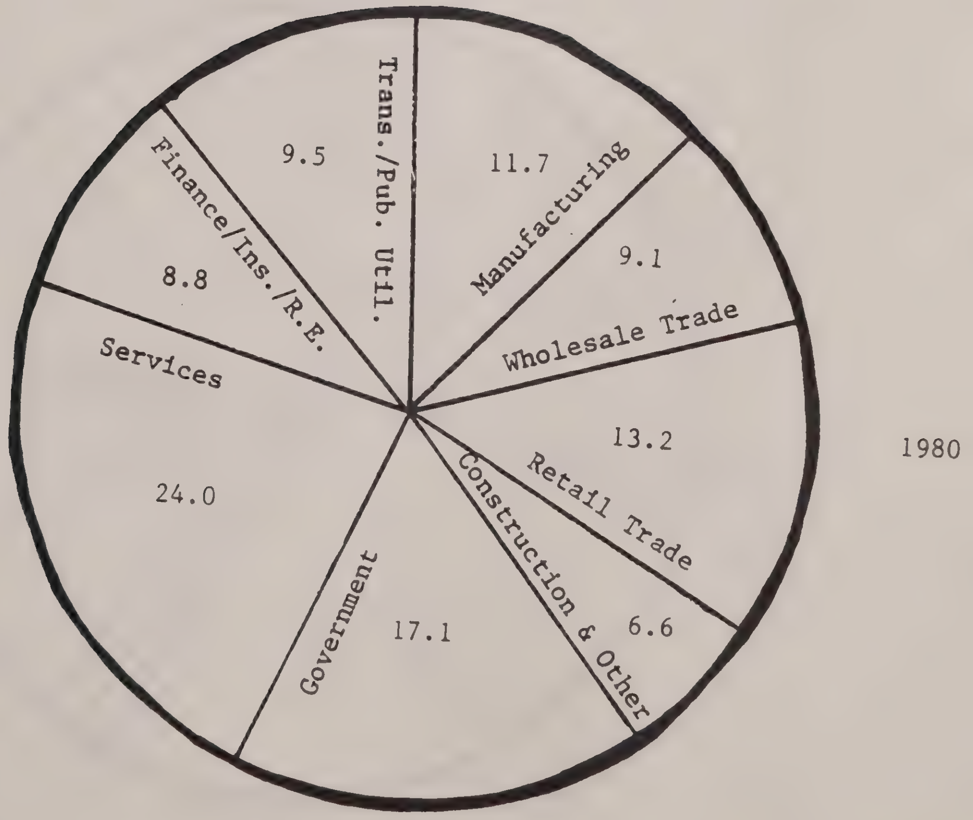


Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 11

PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: DENVER

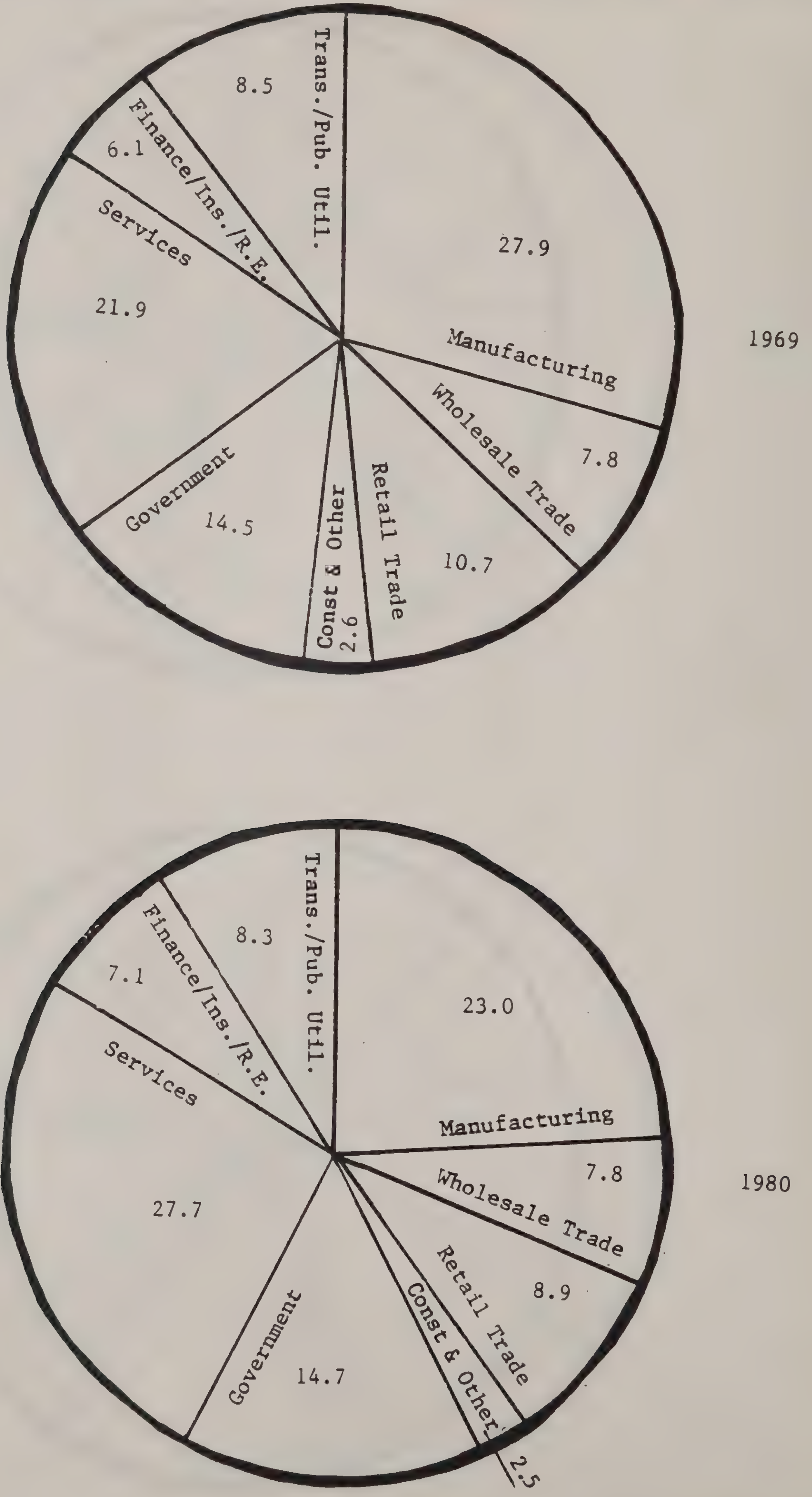




Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 10

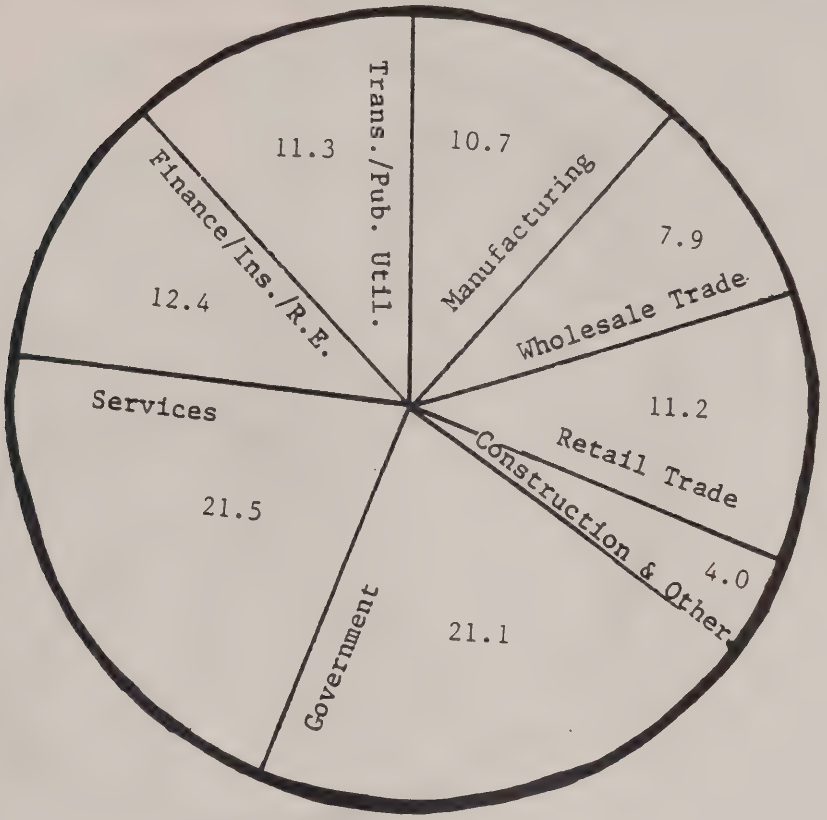
PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: ST. LOUIS



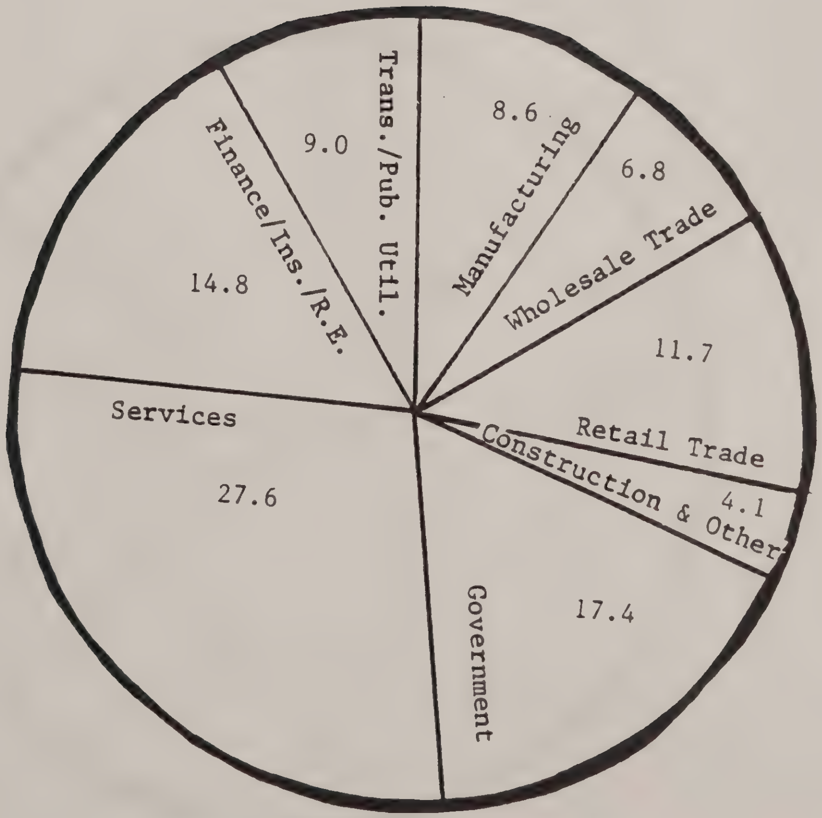
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 13

PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: SAN FRANCISCO



1969

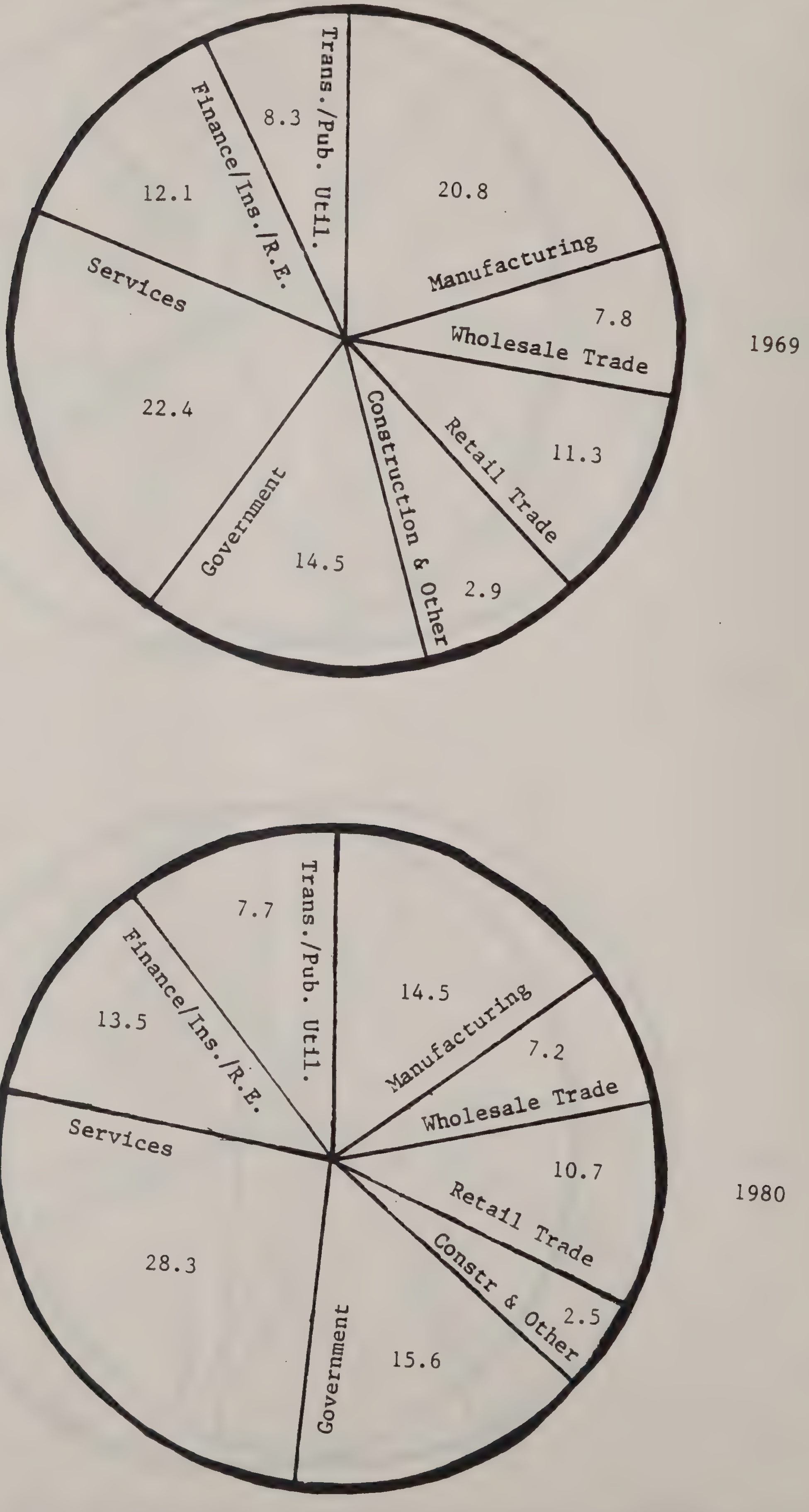


1980

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 12

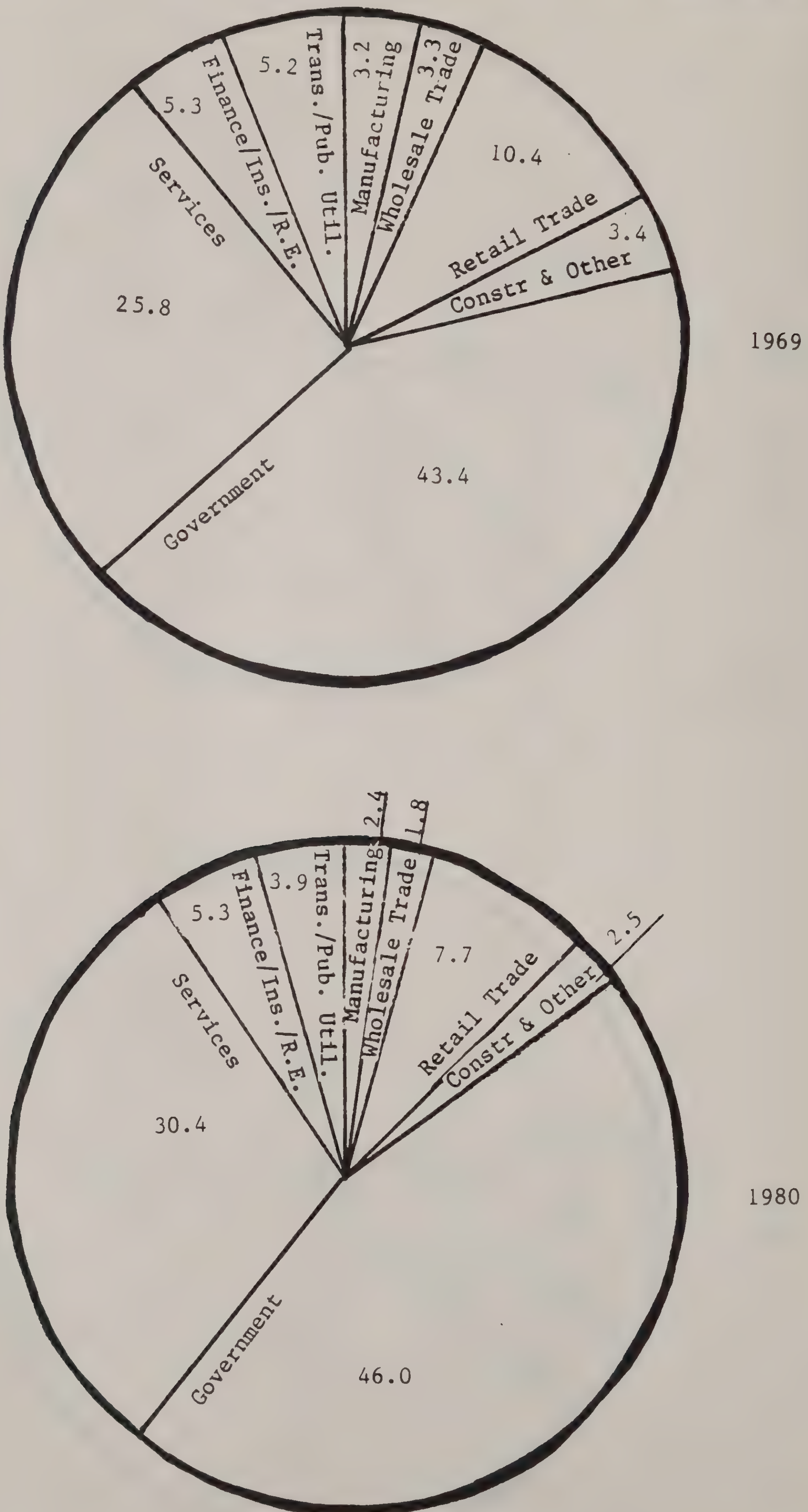
PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: NEW YORK



Source: U.S. Department of Commerce, Bureau of

FIGURE 14

PERCENT DISTRIBUTION OF EMPLOYMENT BY SECTOR, 1969 AND 1980: WASHINGTON, D.C.



Source: U.S. Department of Commerce, Bureau of Economic Analysis

both the City's preeminence as a manufacturing center in the West and the large size of Los Angeles County.*

The transportation and public utilities sector declined in importance in thirteen cities and was stable in Detroit, St. Louis and Denver (Table 3A). Boston stood near mid-range with around seven percent of the City's employment in transportation and public utilities.

The employment role of wholesale trade, 1969-1980, changed differently by category of city (Table 4A). Wholesale trade grew in importance in the Sunbelt cities and declined in the broad-based-services cities. This apparently reflects overall shifts of markets for manufactured goods toward the West and Southwest. Changes in the industrial cities were mixed. In Boston's wholesale trade sector, an absolute employment decline of 16,000 dropped the City from third highest to second lowest among the fifteen cities in terms of percent share in wholesale trade.

A similar pattern occurred in retail trade (Table 5A). In general, the Sunbelt cities expanded retail trade, the industrial cities varied, and the broad-based-services cities declined in retail share. Boston's rank changed from fourth highest in 1969 to fourth lowest in 1980. The decline in employment share in Boston's retail trade sector reflected population shifts and dispersion of retail activity to suburban locations.

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* The larger the central city county, the more manufacturing employment is apt to be included in the county. For example, the growth of manufacturing along Rt. 128, north of Boston, was outside the borders of Suffolk County. In Los Angels, however, such dispersion of manufacturing would have remained largely within the central city county. See the Appendix for a list of central city counties and the percent of their employment in the related central cities.

Boston's specialty in finance, insurance and real estate was evident in the three selected years (Table 6A). Employment in these finance activities made up twelve percent of Boston's total, placing Boston first in 1969 and third in 1980 among the fifteen cities. All of these cities, except New Orleans and Washington, D.C., shifted toward finance employment over the period.

The services sector covers a broad range of activities including health care, education, business services and professional and legal services. Such activities expanded nationwide during 1967-1979 (Table 7A). Employment in services accounted for over one-fifth of total employment in each of the fifteen cities by 1980. The greatest shifts toward services occurred in Boston, San Francisco, Philadelphia, Detroit and St. Louis. In the latter three cities, large decreases in their employment bases (see Tables 1A, 1B) exaggerated the changes in percent shares. Compared to the other fourteen cities, Boston ranked third in services in 1969 behind New Orleans and Washington, D.C. By 1980, Boston's economy was the most services-oriented among these large cities.

Government and government enterprise--federal, state and local--maintained a large employment role nationwide and in the fifteen cities from 1969 to 1980 (Table 8A). Absolute levels of employment changed in varying degrees among the cities. Over the eleven-year period, the Sunbelt cities became less dependent on government employment as growth in the latter did not keep up with growth in other both the City's preeminence as a manufacturing center in the West and the large size of Los Angeles County.*

The transportation and public utilities sector declined in importance in thirteen cities and was stable in Detroit, St. Louis and Denver (Table 3A). Boston stood near mid-range with around seven percent of the City's employment in transportation and public utilities.

The employment role of wholesale trade, 1969-1980, changed differently by category of city (Table 4A). Wholesale trade grew in importance in the Sunbelt cities and declined in the broad-based-services cities. This apparently reflects overall shifts of markets for manufactured goods toward the West and Southwest. Changes in the industrial cities were mixed. In Boston's wholesale trade sector, an absolute employment decline of 16,000 dropped the City from third highest to second lowest among the fifteen cities in terms of percent share in wholesale trade.

A similar pattern occurred in retail trade (Table 5A). In general, the Sunbelt cities expanded retail trade, the industrial cities varied, and the broad-based-services cities declined in retail share. Boston's rank changed from fourth highest in 1969 to fourth lowest in 1980. The decline in employment share in Boston's retail trade sector reflected population shifts and dispersion of retail activity to suburban locations.

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The category, "construction and other", includes residential and non-residential construction, mining, agricultural services, forestry and fishing. Houston led the fifteen cities in this sector relatively and absolutely (Table 9A) largely as a result of the oil industry's concentration of employment in that Texas city. In contrast, Boston had the lowest percent share in construction and other in 1969 and 1980. Except for Houston, New Orleans, Phoenix and Denver, "construction and other" declined in importance over the eleven years.

The absolute growth and decline by sector, 1969-1980, varied widely among individual cities (Tables 1B-9B). For example, Phoenix more than doubled its employment in wholesale trade, retail trade, finance, services and construction and other. Houston's growth was nearly as rapid. At the other extreme, St. Louis declined by more than 25 percent in manufacturing, transportation and public utilities, wholesale trade, retail trade, and construction and other. Boston lost large portions of its employment in manufacturing, wholesale and retail trade, and construction and other, declined slightly in transportation and public utilities, was stable in finance and government, and gained 56,000 jobs in services. Boston's growth in services employment was exceeded only by the Sunbelt cities and Denver.

All together, the fifteen cities made up a large, declining share of United States employment by sector. The lesser employment role of

TABLE 10

EMPLOYMENT: NET EXPORT AND NET IMPORT ROLES BY SECTOR
PERCENT OF EMPLOYMENT EXPORTED(+) OR IMPORTED(-) BASED ON LOCATION QUOTIENTS
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA

	MANUFACTURING			TRANSPORTATION & UTILITIES		
	1969	1976	1980	1969	1976	1980
BOSTON	-104.1	-103.9	-116.9	22.0	21.2	20.0
SUNBELT						
ATLANTA	- 74.4	- 82.6	- 89.3	40.0	36.3	37.7
HOUSTON	- 45.8	- 42.5	- 41.0	27.7	25.9	23.6
LOS ANGELES	8.9	9.0	12.5	- 0.0	0.5	0.2
NEW ORLEANS	-155.0	-186.1	-186.7	51.7	48.0	51.8
PHOENIX	- 21.5	- 42.3	- 25.4	- 12.2	- 8.7	- 16.4
INDUSTRIAL						
CHICAGO	15.7	15.1	12.3	17.7	16.9	13.4
CLEVELAND	23.4	22.8	20.6	8.6	4.3	0.8
DETROIT	25.9	32.1	28.1	3.6	3.6	7.9
PHILADELPHIA	- 0.9	- 17.4	- 29.1	16.8	19.8	16.5
ST. LOUIS	5.8	8.1	7.0	31.9	34.1	34.9
BROAD-BASED SERVICES						
DENVER	- 78.2	- 86.2	- 83.5	38.2	41.7	43.1
NEW YORK	- 26.6	- 40.0	- 47.4	30.1	32.1	29.3
SAN FRANCISCO	-146.7	-149.3	-149.8	48.8	42.3	39.8
WASHINGTON, DC.	-727.0	-850.0	-809.2	- 11.1	- 33.5	- 40.2

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 11

EMPLOYMENT: NET EXPORT AND NET IMPORT ROLES BY SECTOR
PERCENT OF EMPLOYMENT EXPORTED(+) OR IMPORTED(-) BASED ON LOCATION QUOTIENTS
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA

	WHOLESALE TRADE			RETAIL TRADE		
	1969	1976	1980	1969	1976	1980
BOSTON	39.6	15.8	- 3.2	- 1.6	- 33.6	- 45.4
SUNBELT						
ATLANTA	55.5	53.6	53.3	5.5	2.9	- 2.4
HOUSTON	45.2	38.5	37.1	4.0	- 1.2	- 2.8
LOS ANGELES	22.3	24.2	24.0	- 0.2	- 3.1	- 7.4
NEW ORLEANS	39.3	29.3	24.6	- 6.7	- 4.9	- 13.6
PHOENIX	7.3	7.7	4.9	16.1	17.0	14.2
INDUSTRIAL						
CHICAGO	37.1	30.1	31.6	- 2.6	- 5.2	- 6.8
CLEVELAND	28.4	27.2	27.1	- 2.3	- 3.8	- 3.0
DETROIT	17.3	- 2.3	- 5.4	- 2.9	- 8.0	- 10.2
PHILADELPHIA	26.9	11.3	4.5	- 16.1	- 26.5	- 30.5
ST. LOUIS	38.2	27.6	28.5	- 35.8	- 54.5	- 77.6
BROAD-BASED SERVICES						
DENVER	48.5	41.4	39.1	4.2	- 11.1	- 19.9
NEW YORK	38.0	27.7	22.9	- 28.9	- 40.0	- 47.7
SAN FRANCISCO	38.5	26.3	18.9	- 30.4	- 41.1	- 35.7
WASHINGTON, DC.	- 48.7	-166.0	-210.6	- 40.5	- 98.2	-104.9

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 12

EMPLOYMENT: NET EXPORT AND NET IMPORT ROLES BY SECTOR
PERCENT OF EMPLOYMENT EXPORTED(+) OR IMPORTED(-) BASED ON LOCATION QUOTIENTS
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA

	FINANCE			SERVICES		
	1969	1976	1980	1969	1976	1980
BOSTON	62.3	58.1	56.7	28.3	38.5	40.7
SUNBELT						
ATLANTA	37.1	37.9	32.4	16.2	14.4	13.3
HOUSTON	14.5	10.0	12.6	15.7	7.6	2.7
LOS ANGELES	16.0	15.5	16.5	12.6	12.9	15.6
NEW ORLEANS	31.3	24.1	16.9	29.7	25.8	24.1
PHOENIX	18.6	27.9	22.5	6.1	3.6	0.9
INDUSTRIAL						
CHICAGO	27.5	28.8	31.3	- 2.4	3.1	3.3
CLEVELAND	0.9	1.7	1.5	- 5.7	5.0	6.7
DETROIT	13.4	4.3	- 0.1	- 5.4	1.2	6.8
PHILADELPHIA	36.0	36.6	35.4	16.0	24.9	29.4
ST. LOUIS	22.8	19.5	22.4	20.9	26.4	26.5
BROAD-BASED SERVICES						
DENVER	32.0	37.3	37.2	10.3	14.0	15.3
NEW YORK	61.2	59.6	59.1	22.7	25.4	28.2
SAN FRANCISCO	62.4	63.6	62.7	19.5	26.7	26.4
WASHINGTON, DC.	12.4	- 1.8	- 3.5	33.1	28.6	33.1

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

TABLE 13

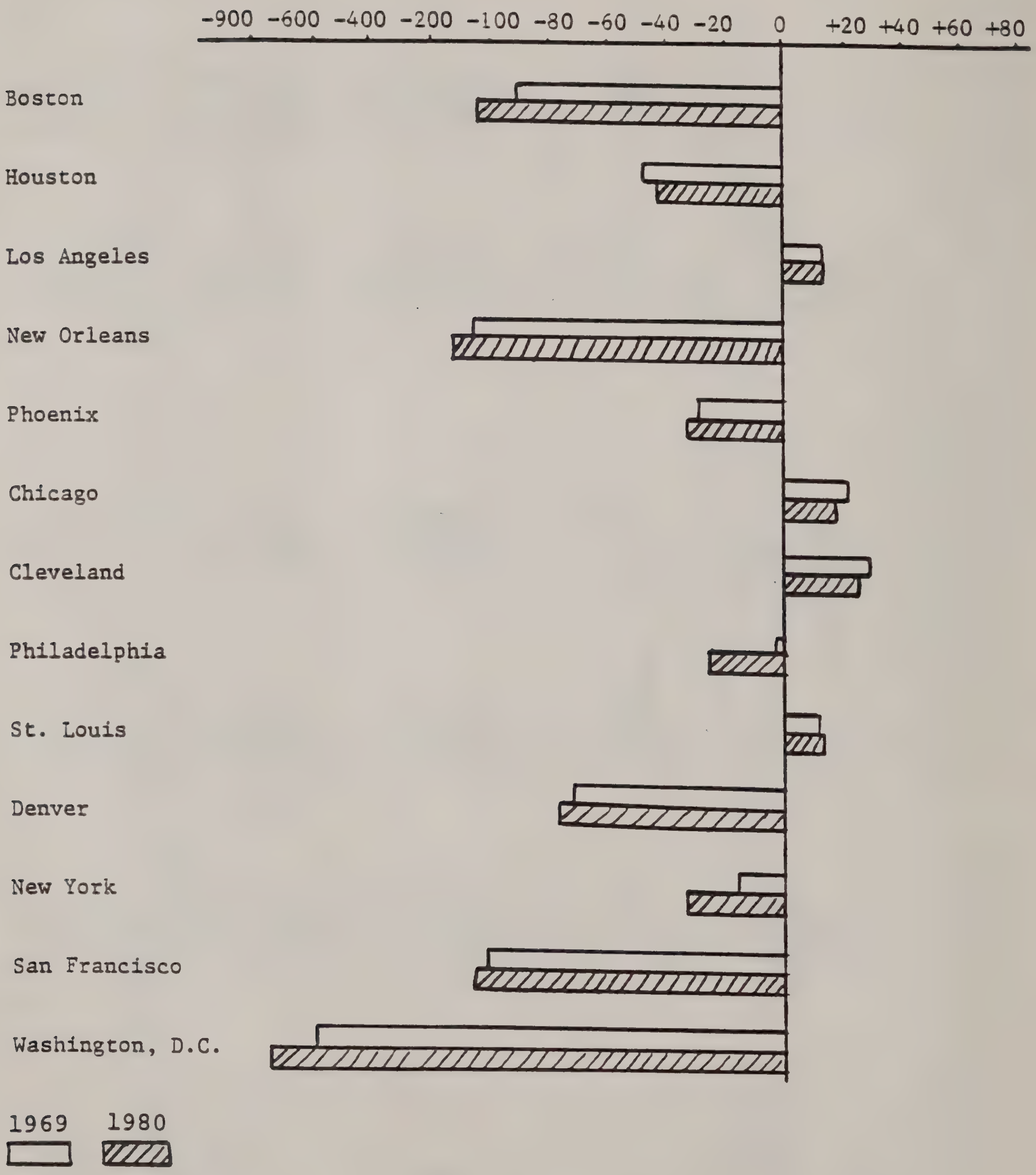
EMPLOYMENT: NET EXPORT AND NET IMPORT ROLES BY SECTOR
PERCENT OF EMPLOYMENT EXPORTED(+) OR IMPORTED(-) BASED ON LOCATION QUOTIENTS
BOSTON AND 14 CENTRAL CITY COUNTIES AND USA

	GOVERNMENT			CONSTRUCTION & OTHER		
	1969	1976	1980	1969	1976	1980
BOSTON	- 21.6	- 21.2	- 9.8	- 53.1	- 92.3	-203.2
SUNBELT						
ATLANTA	- 37.5	- 24.9	- 20.5	0.4	- 49.5	- 33.4
HOUSTON	- 71.3	- 74.7	- 82.8	50.6	59.7	59.9
LOS ANGELES	- 36.9	- 33.7	- 46.9	- 42.4	- 56.7	- 57.9
NEW ORLEANS	- 24.1	- 18.4	- 7.8	27.1	34.6	24.6
PHOENIX	- 4.2	2.1	- 12.3	11.1	4.1	29.2
INDUSTRIAL						
CHICAGO	- 73.5	- 51.9	- 45.6	- 27.7	- 63.7	- 64.2
CLEVELAND	- 68.0	- 54.0	- 47.1	- 18.7	- 58.3	- 64.2
DETROIT	- 57.3	- 49.3	- 32.5	- 66.3	-123.8	-148.5
PHILADELPHIA	- 28.4	- 7.0	- 3.6	- 54.2	-156.4	-140.9
ST. LOUIS	- 42.1	- 41.8	- 34.4	-129.3	-146.8	-145.6
BROAD-BASED SERVICES						
DENVER	- 8.1	- 8.3	- 15.4	2.3	- 6.4	5.7
NEW YORK	- 42.1	- 27.1	- 26.4	-105.8	-159.6	-152.9
SAN FRANCISCO	2.0	- 12.9	- 13.5	- 46.8	- 39.3	- 52.1
WASHINGTON, DC.	52.4	56.8	57.1	- 72.0	- 88.9	-145.6

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS.

FIGURE 15

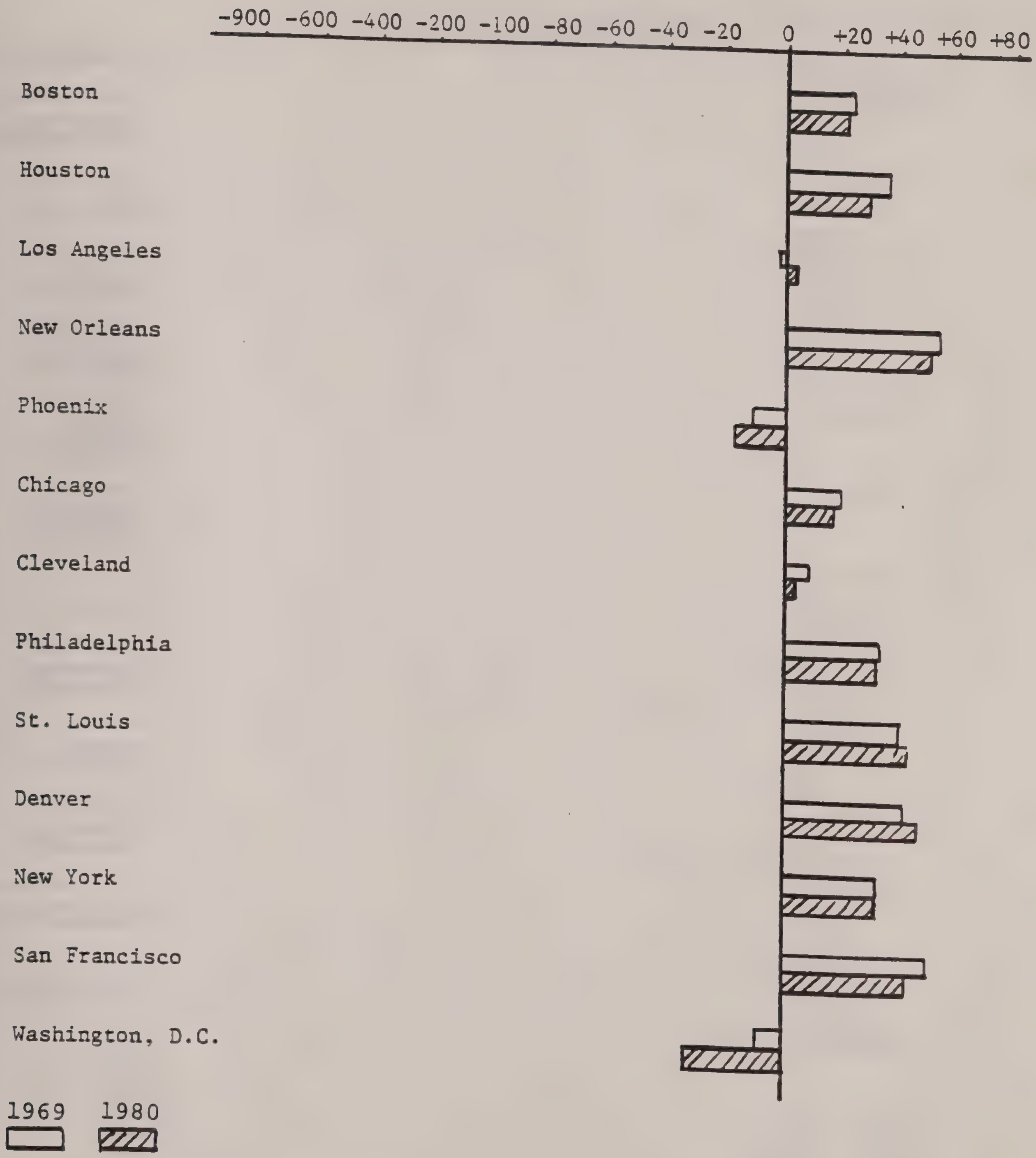
NET EXPORT AND NET IMPORT ROLES BY SECTOR: MANUFACTURING
PERCENT OF EMPLOYMENT EXPORTED (+) OR IMPORTED (-)



Source: U.S. Department of Commerce, Bureau of Economic Analysis

FIGURE 16

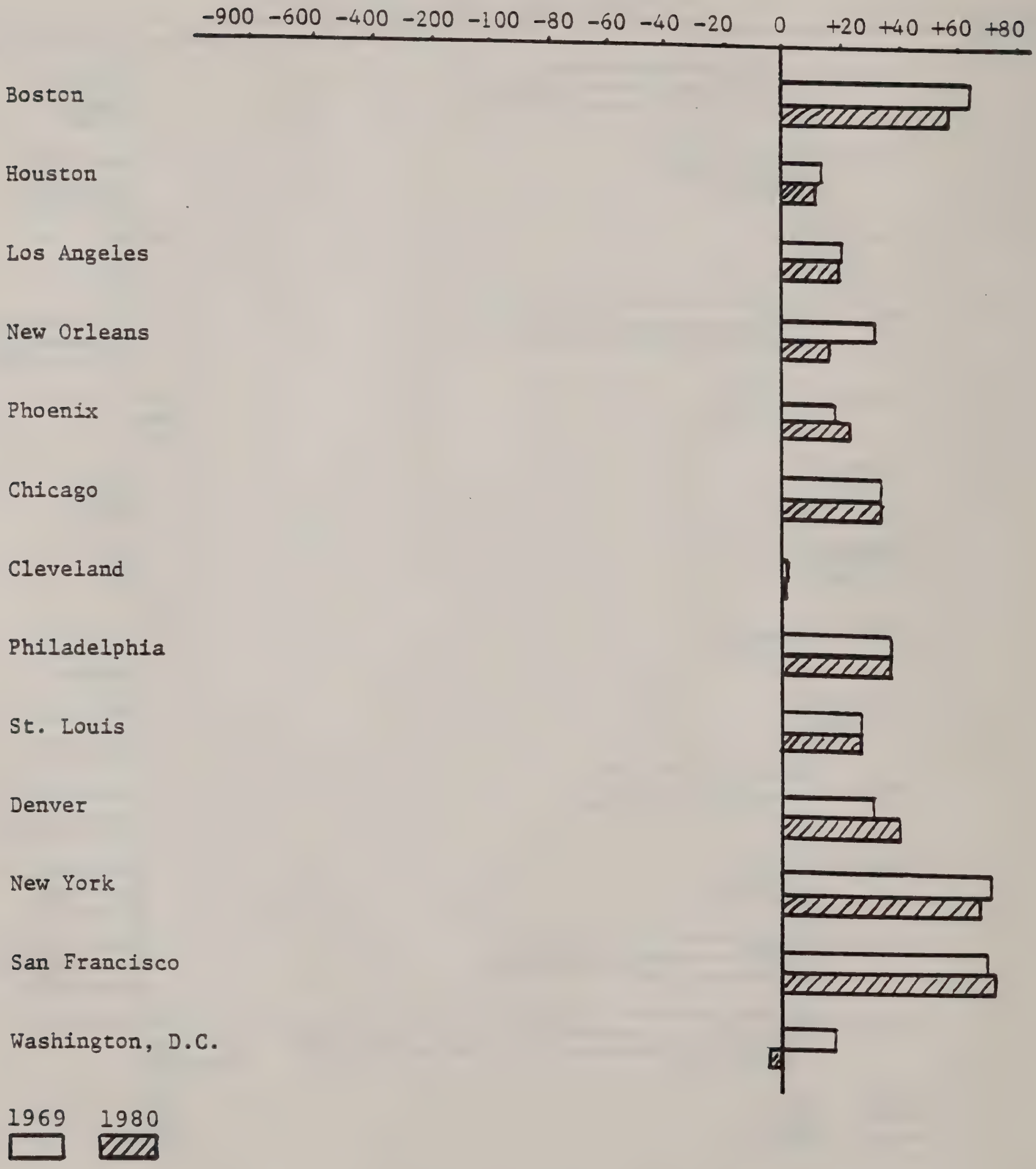
NET EXPORT AND NET IMPORT ROLES BY SECTOR:
TRANSPORTATION/PUBLIC UTILITIES
PERCENT OF EMPLOYMENT EXPORTED (+) OR IMPORTED (-)



Source: U.S. Department of Commerce, Bureau of Economic Analysis

FIGURE 17

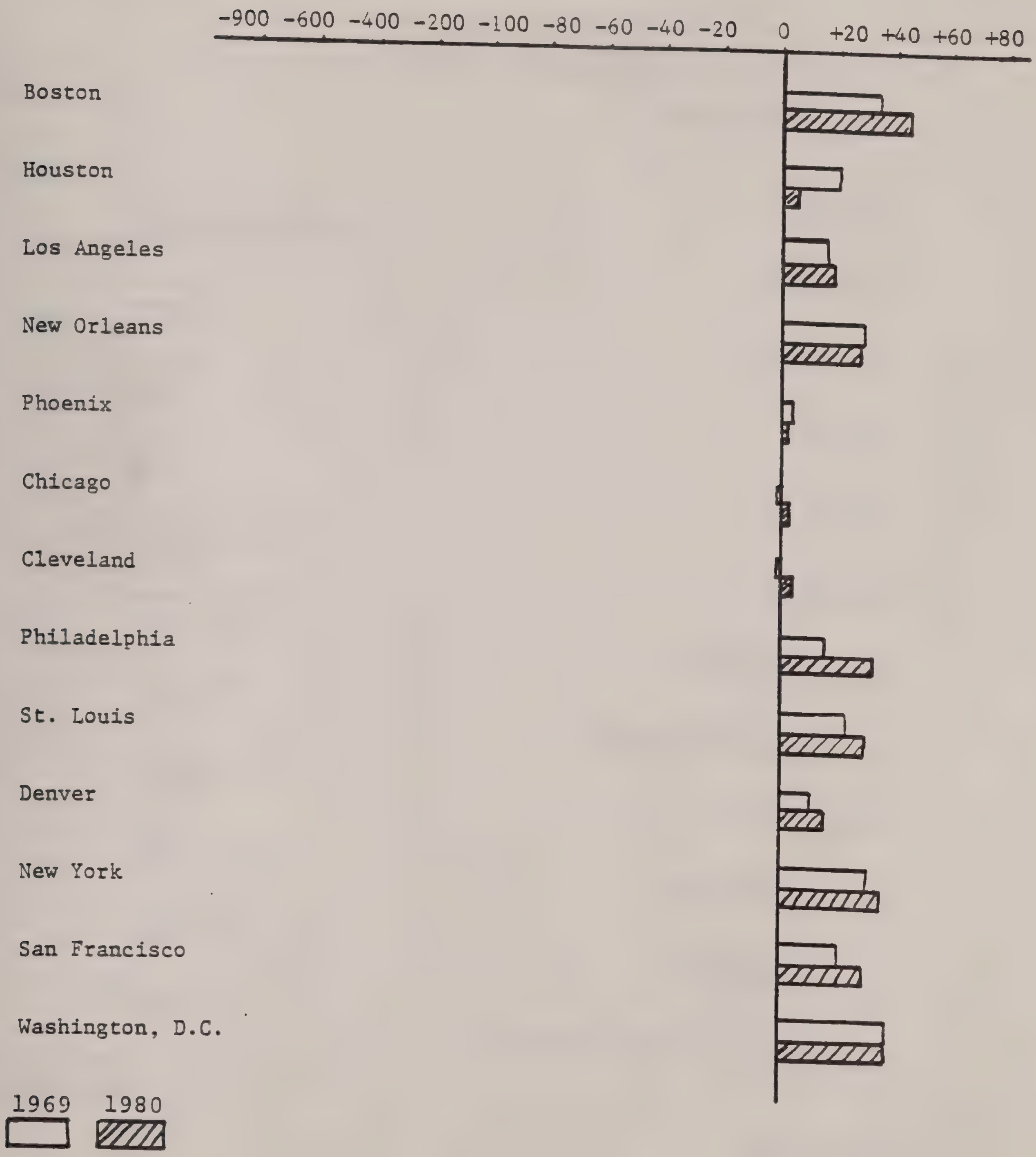
NET EXPORT AND NET IMPORT ROLES BY SECTOR:
FINANCE/INSURANCE/REAL ESTATE
PERCENT OF EMPLOYMENT EXPORTED (+) OR IMPORTED (-)



Source: U.S. Department of Commerce, Bureau of Economic Analysis

FIGURE 18

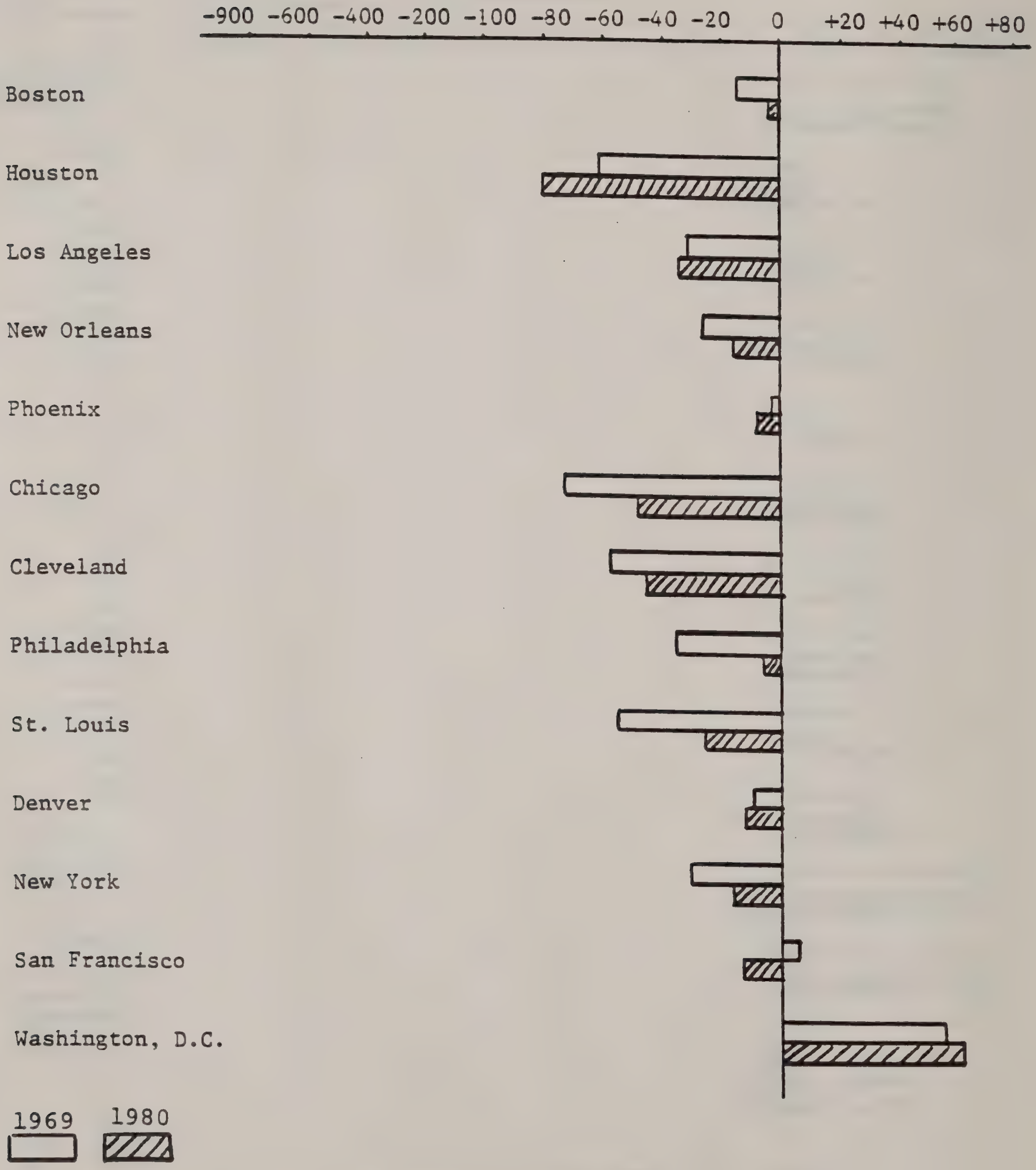
NET EXPORT AND NET IMPORT ROLES BY SECTOR: SERVICES
PERCENT OF EMPLOYMENT EXPORTED (+) OR IMPORTED (-)



Source: U.S. Department of Commerce, Bureau of Economic Analysis

FIGURE 19

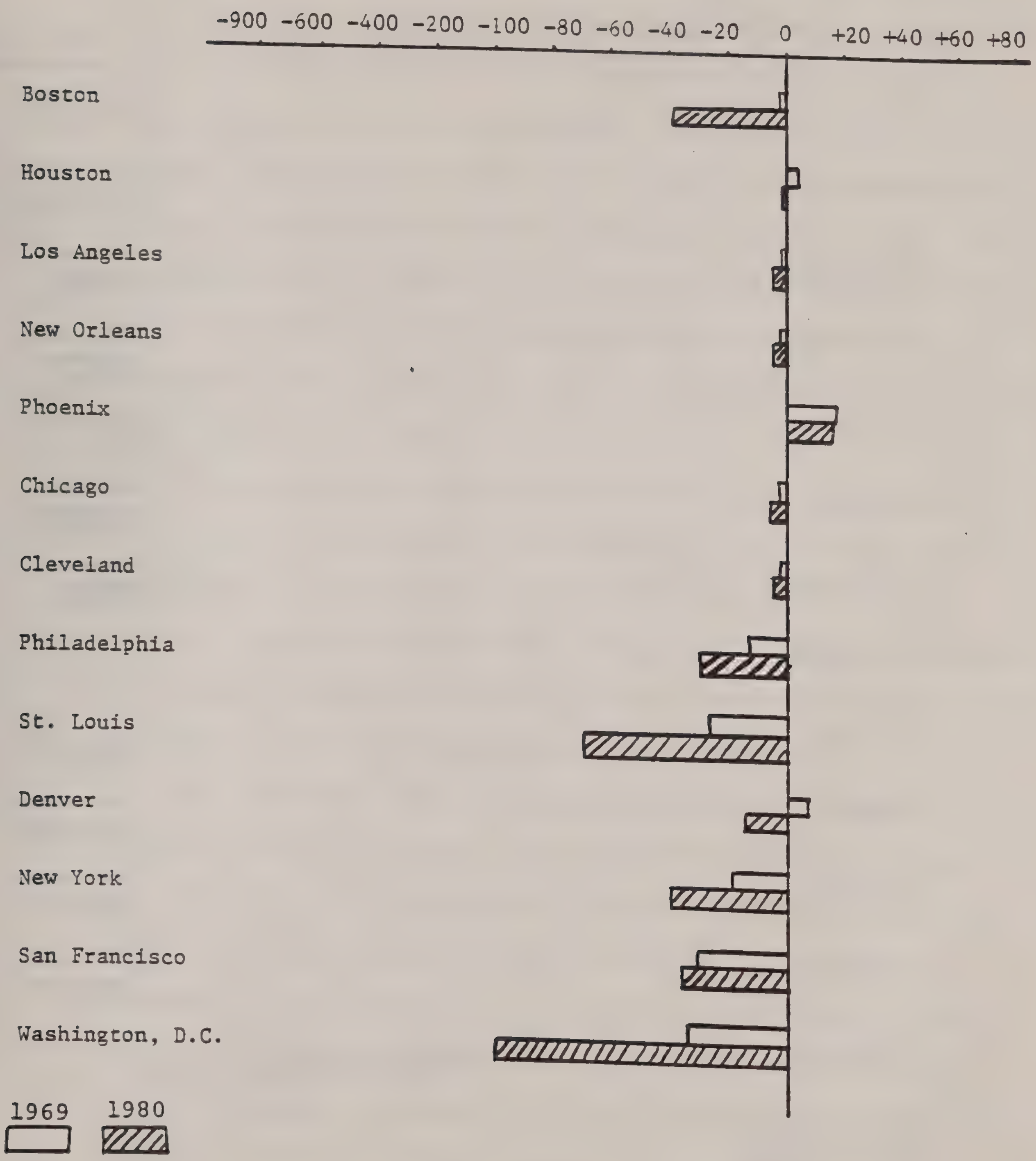
NET EXPORT AND NET IMPORT ROLES BY SECTOR: GOVERNMENT
PERCENT OF EMPLOYMENT EXPORTED (+) OR IMPORTED (-)



Source: U.S. Department of Commerce, Bureau of Economic Analysis

FIGURE 20

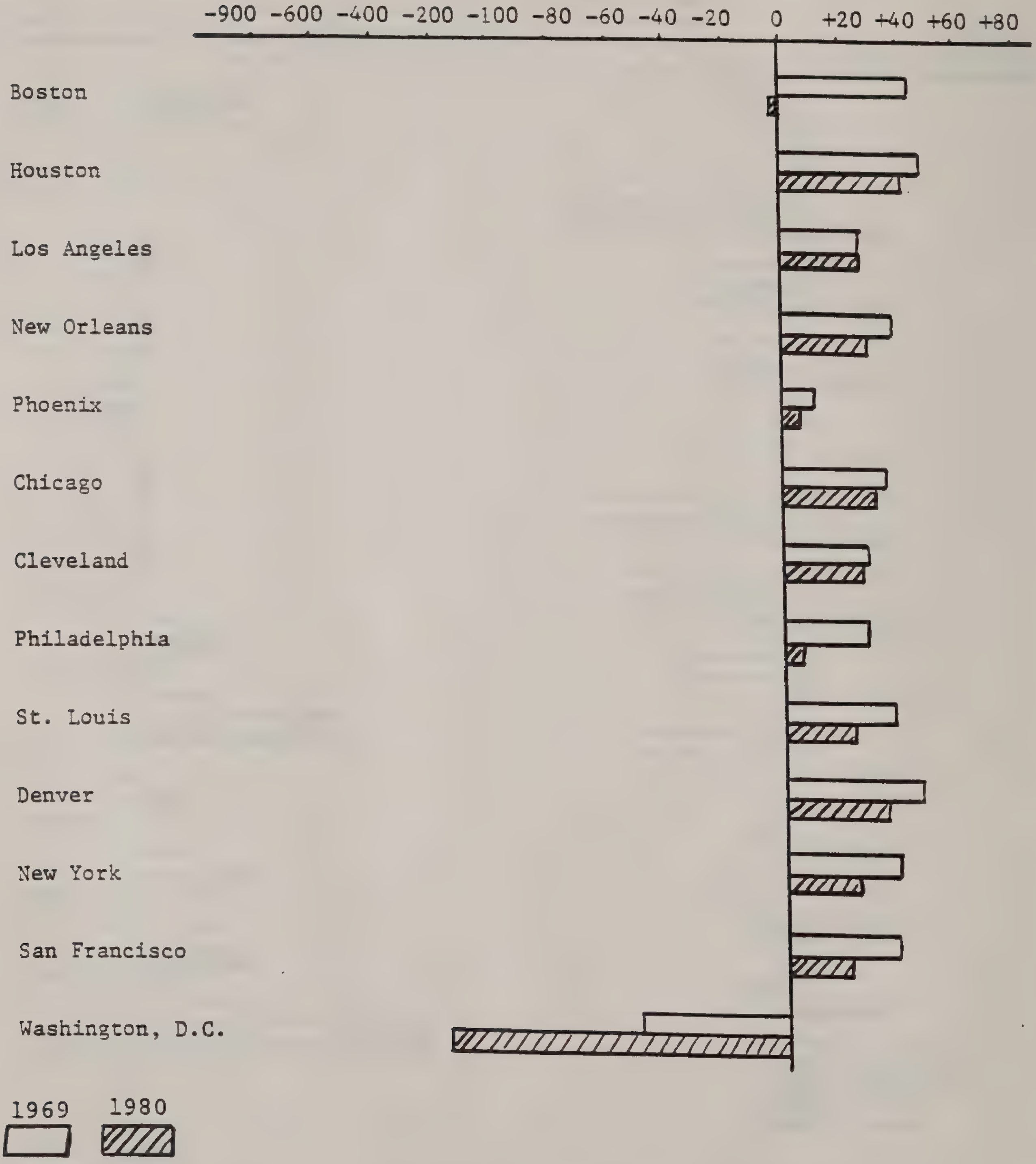
NET EXPORT AND NET IMPORT ROLES BY SECTOR: RETAIL TRADE
PERCENT OF EMPLOYMENT EXPORTED (+) OR IMPORTED (-)



Source: U.S. Department of Commerce, Bureau of Economic Analysis

FIGURE 21

NET EXPORT AND NET IMPORT ROLES BY SECTOR: WHOLESALE TRADE
PERCENT OF EMPLOYMENT EXPORTED (+) OR IMPORTED (-)



Source: U.S. Department of Commerce, Bureau of Economic Analysis

industrial sector. The percentages shown may be interpreted as the proportion of local production that was (net) exported or imported.

Only the manufacturing-oriented cities--Chicago, Cleveland, Philadelphia, St. Louis and Los Angeles-- were net exporters of manufacturing (Figure 15). All cities, except Los Angeles and Houston, declined by this measure over the eleven years. The concurrent trend of employment growth in suburban and non-metropolitan areas would explain much of the overall decline. In the extreme, Philadelphia's loss of employment in that sector changed the City's net export role in 1969 to a net import role in 1980.

Transportation and public utilities held large net export roles in most of the fifteen central cities (Figure 16). Only Phoenix and Washington had relatively weak transportation and public utility sectors. The findings implied that central city counties, for historic and practical reasons, continued to anchor land and air transportation networks as well as communications and energy systems.

The nationwide losses in central city population and the growth in suburban shopping centers over the period were among factors that left Phoenix as the only net exporter of retail trade in 1980 (Figure 17). Boston showed the largest turnaround from a net exporter to a net importer. Boston also lost its net export role in wholesale trade (Figure 18). However, most of the other cities, with the help of long-established transportation networks, maintained net export roles in wholesale trade over the same years.

Central city counties' importance in finance, insurance and real estate held steady 1969-1980 (Figure 19). Boston, New York and San

Francisco bore out their reputations as financial centers by leading the other cities in net export percentage.

Net export roles in services were fairly consistent across cities and increased in most cities over the eleven years (Figure 20). In 1980, Boston led all of the other cities in net export role in services. The apparent weakness in services in Houston, Phoenix, Chicago, Cleveland, and Detroit stemmed from: the importance of other sectors in the less mature Sunbelt cities; the dominance of manufacturing in the older industrial centers; and the mismatch between the central city and the larger central city county (and the related market for services) in these five particular cities (see Appendix, p. A1).

In the government sector, the concentration of government employment in Washington, D.C. made all other cities appear to be net importers of government employment (Figure 21). Moreover, comparisons were not fair among cities considering that three cities were state capitals, and two of these (Boston and Denver) plus five other cities were federal regional centers.

IV. IMPLICATIONS FOR BOSTON

The comparative measures in this study are broad and limited to earned income, excluding many important urban characteristics. Nevertheless, this comparison of employment structure in thirteen large cities provides a means for ranking the cities in the context of general economic trends.

Boston emerged from the late 1960s and early 1970s in relatively good standing. The City could not keep pace with overall employment growth in the Sunbelt cities and suburban and non-metropolitan areas. However, Boston avoided the large job losses experienced in some of the older, northern cities. More important than changes in the overall employment levels, Boston heightened its specialization in the nation's fastest growing economic sectors 1969-1980--services and finance, insurance and real estate. In fact, Boston ranked first and third in services and finance, respectively, in terms of percent distribution of employment by sector. At the same time, Boston was less dependent on the slowest-growing sector--manufacturing--than nine of the other twelve cities. The nationwide shift away from manufacturing toward services should continue in the 1980s, making Boston's employment structure well-suited for job growth over the decade.

Growth and Change in the 1980s

The comparative analysis of employment structure offers no direct gaze into the future. However, Boston's relative strengths and weaknesses in 1980 form a basis to which additional information can be applied. Recent employment projections by the Boston Redevelopment Authority imply that Boston's long-term economic prospects are promising.[1] The employment structure analysis and recent developments add weight to those projections.

First, jobs in services should continue to grow. Boston's many hospitals serve a regional population that will require more health services as average ages increase in the 1980s. Local business services will benefit from the metropolitan area's growing high technology industries. Job prospects are good in services that are not duplicated in the metropolitan area such as particular educational programs, certain museums and places of entertainment, and professional sports.

Second, employment in finance, insurance and real estate should continue to grow as Boston maintains its role as a financial center for the region. The tight housing and office markets and plans for new office space bolster the real estate industry and indicate that firms in financial and services activities anticipate growth[2].

Third, transportation and public utilities, a fairly stable sector in Boston 1969-1980, appears to be ready for growth in the 1980s. The MBTA is expanding its subway system and could be a more important employment source if it overcomes recent operating difficulties. Growth in airline passengers, airborne cargo, seaport shipments and fish landings at Logan International Airport in the late 1970s appears likely to be sustained in the 1980s, especially with the Massachusetts Port Authority's new seaport container terminal and the planned full container terminal in South Boston.[3] These transportation activities, as well as the new office, retail and hotel developments should increase employment in construction over the decade.[4]

Fourth, Boston will continue to be a center for local, state and federal government jobs in the 1980s. Even if the growth of 1969-1980 were reversed, the government sector will likely maintain its place as the second largest employment source in Boston.

Fifth, losses of jobs in Boston's manufacturing and trade sectors during 1969-1980 would probably not recur in the 1980s. Recent developments in Boston's downtown fortified the smaller, sturdier employment bases in manufacturing and trade.[5]

While the long-term outlook is promising, Boston faces three short term problems that could retard employment growth later in the decade. First, the City's immediate fiscal problems have resulted in reductions of public services, a freeze on capital improvements, and loss of jobs in local government. Given the tax levy reductions which were mandated by "Proposition 2½", the tax exempt status of many of the growing institutions, and court-ordered (Tregor) tax rebates to commercial property owners, Boston needs new sources of revenue to continue to support growth in public and private sector employment.

Additionally, the recession of 1981-82 could delay growth in private sector jobs. Boston's economy was relatively recession-proof in 1979 due to the predominance of employment in services. However, the depressed activity in other industries could reduce growth in services, especially if the recession were severe or prolonged.[6]

Furthermore, federal urban and economic policies may hinder employment growth in Boston. The Reagan Administration's intention to provide incentives for rebuilding manufacturing industries will do little for Boston since the City's industrial base is small. More important, the federal shift away from social spending and local aid toward defense spending is ominous for Boston. The City was expected to lose $53 million in federal aid in fiscal year 1982, a 32 percent reduction.[7] Moreover, cuts to other regional authorities, such as the MBTA, and to other non-profit groups and individuals could reduce employment further. With the increase in defense spending, Boston could receive indirect benefits from defense contracts awarded to firms in the metropolitan area. However, increases in military expenditures reduces the capital available for investment in private goods and services and non-profit activities. This harms Boston, where non-defense activities are the strength of the employment base. An economic simulation model of Massachusetts indicated that an increase in defense spending would stimulate increases in wage rates, substitution of capital for labor, and displacement of labor-intensive industries--the type that dominate Boston's economy.[8]

Moreover, the "New Federalism" appears to give state and local governments more responsibility for providing services, but less aid with which to operate. The quest for "less government" necessarily means less employment in Boston's second largest employment sector. Overall, current federal policy places a greater burden on Boston's municipal budget and does not enhance the long-term prospects for the local economy.

Finally, who gets the jobs in Boston is an important issue to residents, planners and policy makers in the City. In 1980, Boston residents held 34 percent of the jobs in the workplaces in the City, compared to 41 percent in 1970.[9] The resident labor force had lower levels of education and training than suburban commuters who competed for jobs. Evidently, many of the new jobs in the 1970s were filled by skilled, professional, non-residents. Concurrently, the bulk of jobs lost during the 1970s were in manufacturing and trade where entry-level jobs suitable for unskilled workers were more prevalent than in most services. As a result, many of the residents who most needed jobs were not well served by the job growth 1969-1980. How well the available jobs fit the skills of Boston residents in the 1980s depends largely on the quality of general education and private and public job programs.[10]

V. DATA AND APPROACH

This analysis measures economic activity by full and part time, non-farm, wage and salary employment by place of work as estimated by the Regional Economics Information System, Bureau of Economic Analysis. The data are reasonably consistent between cities[11] and time periods[12] and provide a means for comparing employment structure and trends. The industrial sectors (1-digit Standard Industrial Classification) are broad, but sufficient for measuring large changes.

The years 1969, 1976 and 1980 define a period during which the structure of the national economy changed markedly. The recessions of the 1970s, intense foreign competion in manufactured goods, and especially, the disruptive increases in energy prices coincided with a steady movement away from the production of goods toward a broad range of services.[13] Therefore, the period 1969-1980 should have included noteworthy changes in employment structure in the traditional production centers: the nation's central cities.

The scarcity of data specific to central cities[14] leads to the choice of "central city county" as the unit of analysis in this study. For the purposes of this employment analysis, central city counties matched central cities quite well (see Appendix, p. A-1), central city counties did not include much, if any, suburban territory, and county boundaries had not changed over time (unlike city and metropolitan boundaries). In the following pages, "city" refers to a central city county, or five counties in the case of New York.

The fifteen cities (including Boston) were chosen from the nation's 34 largest cities. The criteria for selection were: five cities from each of three categories (Sunbelt, industrial-based, and broad-based services; see list in Appendix, p. A-2); geographical variety; and regional importance in terms of population and economics.

The methods of comparison were simple, but appropriate for identifying differences in economic structure among the large cities. First, for a given year, the percent distribution of employment by sector was calculated for each city by:

$$E_i/E_T \times 100$$

where E_i = employment in industry i, and
E_T = total employment.

Second, the percent changes in employment by sector from 1969 to 1976 (and likewise for 1976-80) were computed by:

$$((E_{i1976}-E_{i1969})/E_{i1969}) \times 100.$$

Also, the sum of the fifteen cities by sector was divided by the United States total. Third, for a given year and city, the net export and net import roles were expressed by:

$$LQ = (E_{ic}/E_c)/(E_{iN}/E_N) \text{ and}$$

$$NE_{ic} = (1 - \frac{1}{LQ}) \times 100$$

where LQ = location quotient (export base theory),[15]
E_{ic} = employment in industry i in the city,
E_c = total employment in the city,
E_{iN} = employment in industry i in the nation, and
NE_{ic} = net exports (+) or net imports (-) as a percent of employment in the city in the same industry.

This method yielded rough measures of the magnitude of net exports and net imports by sector.[16]

Notes

[1] "Population and Employment Projections for Boston and the MAPC Region 1990, 2000, 2010," Research Department, Boston Redevelopment Authority, December 10, 1982,

[2] Building Owners and Managers Association of Greater Boston, "BOMA Fall Occupancy Survey", December 18, 1981; John Avault, "Fiscal Impact of Development in Boston, 1975-81," BRA Research, October 1981.

[3] Massport 1980 Annual Report, Massachusetts Port Authority, 1981.

[4] "Planning for Boston's Next Decade of Development 1980-90," BRA Research Department, May 1980.

[5] John Avault, op. cit.

[6] Michael Urquhart, "The Services Industry: Is It Recession-Proof?" Monthly Labor Review (October 1981) pp. 12-18.

[7] City of Boston, Office of Intergovernmental Relations, "The Federal Budget and the City of Boston/FY82; An Impact Analysis," May 1981.

[8] Massachusetts Division of Employment Security, Defense Spending and Massachusetts Employment, 1969-1979, January 1981, p.1.

[9] "Boston's Labor Force and Economic Development; Recent Trends and Prospects; Needs and Opportunities," Research Department, Boston Redevelopment Authority, January 1982, p.6.

[10] Fred C. Doolittle, "Jobs and People in Boston," (presented to the Boston Workshop Series) January 20, 1982, pp. 24-25.

[11] Wage and salary employment estimates were based on data furnished by state bureaus of employment security. The Bureau of Economic Analysis attempted to solve any inconsistencies, caused by the state's various reporting methods.

[12] The data for 1967 and 1979 were inconsistent in one respect: the former were based on 1967 Standard Industrial Classification (SIC) definitions, and the latter were based on 1972 definitions. Across broad industrial sectors, the differences are minimal.

[13] Eli Ginzberg and George J. Vojta, "The Service Sector of the U.S. Economy," Scientific American, (Vol. 244, No. 3, March 1981) pp. 48-55.

[14] James W. Fossett and Richard P. Nathan, "The Prospects for Urban Revival," Roy Bahl, ed., Urban Government Finance in the 1980s (Sage Publications; Beverly Hills, forthcoming).

[15] For a particularly clear discussion of the location quotient, see Andrew M. Isserman, "The Location Quotient Approach to Estimating Regional Economic Impacts," AIP Journal (January 1977) pp. 33-41.

[16] The "net export percent" calculation cannot estimate actual movement of goods and services nor the employment attributable to such movements. Rather, the calculation and its source, the location quotient, are useful for assessing the strengths and weaknesses of an urban regional economy relative to national averages. Further, export base theory and location quotient cannot be applied strictly to central city counties; a functional economy, in most cases, would include the central city county plus the remainder of the metropolitan area.

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Boston Development Comparative Study

1970 Employment by Place of Work
Central Cities as a Percent of Central City Counties

Central City	(Percent Share of Central City County)
Kansas City	107
Baltimore	100
Denver	100
New Orleans	100
New York	100
Philadelphia	100
St. Louis	100
San Francisco	100
Washington, D.C.	100
Jacksonville	100
Boston	93
Nashville-Davidson	90
Atlanta	87
Memphis	86
San Antonio	83
El Paso	82
Indianapolis	82
Houston	81
Dallas	77
Columbus	74
Milwaukee	70
Minneapolis-St. Paul	66
Seattle	65
Chicago	65
Phoenix	65
Cincinnati	60
San Diego	60
Cleveland	59
Detroit	59
Buffalo	53
Newark	51
Pittsburgh	50
Los Angeles	44
San Jose	35

Source: U.S. Census Bureau, Journey to Work, 1970.

BOSTON DEVELOPMENT COMPARATIVE ANALYSIS
List of 34 Cities (and Central City Counties)

Sunbelt

Atlanta (Fulton and DeKalb)
Dallas (Dallas)
El Paso (El Paso)
Houston (Harris)
Jacksonville (Duval)
Los Angeles (Los Angeles)
New Orleans (Orleans)

Phoenix (Maricopa)
San Antonio (Bexar)

San Diego (San Diego)
San Jose (Santa Clara)

Industry-based

Buffalo (Erie)
Chicago (Cook)
Cincinnati (Hamilton)
Cleveland (Cuyahoga)
Detroit (Wayne)
Indianapolis (Marion)
Milwaukee (Milwaukee)
Newark (Essex)
Philadelphia (Philadelphia)
Pittsburgh (Allegheny)
St. Louis (St. Louis City)

Broad-based Services

Baltimore (Baltimore City)
Boston (Suffolk)
Columbus (Franklin)
Denver (Denver)
Kansas City (Jackson only)
Memphis (Shelby)
Minneapolis-St. Paul (Hennepin and Ramsey)
Nashville (Davidson)
New York (Bronx, Kings, New York, Queens, Richmond)
San Francisco (San Francisco)
Seattle (King only)
Washington, D.C. (District of Columbia)